

**Vol. II**  
**TRANSCRIPT OF RECORD**

(Pages 513 to 1024)

---

---

**Supreme Court of the United States**

**OCTOBER TERM, 1944**

**No. 296**

**PANHANDLE EASTERN PIPE LINE COMPANY,  
ILLINOIS NATURAL GAS COMPANY AND MICHIGAN  
GAS TRANSMISSION CORPORATION, PETI-  
TIONERS.**

**vs.**

**FEDERAL POWER COMMISSION, CITY OF DE-  
TROIT, COUNTY OF WAYNE, MICHIGAN, ET AL.**

**ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT  
OF APPEALS FOR THE EIGHTH CIRCUIT**

---

---

**PETITION FOR CERTIORARI FILED JULY 28, 1944.**

**CERTIORARI GRANTED JANUARY 3, 1945.**

**VOL. II.**  
**TRANSCRIPT OF RECORD.**

---

**United States Circuit Court of Appeals**  
**EIGHTH CIRCUIT.**

---

**No. 12,466**

---

**PANHANDLE EASTERN PIPE LINE COMPANY, A  
CORPORATION, ILLINOIS NATURAL GAS  
COMPANY, A CORPORATION, AND MICHIGAN  
GAS TRANSMISSION CORPORATION, A COR-  
PORATION, PETITIONERS,**

**vs. /**

**FEDERAL POWER COMMISSION, CITY OF DETROIT,  
MICHIGAN, COUNTY OF WAYNE, MICHIGAN,  
MICHIGAN CONSOLIDATED GAS COMPANY,  
A CORPORATION, AND MICHIGAN PUBLIC  
SERVICE COMMISSION, RESPONDENTS.**

---

**PETITION TO REVIEW AND SET ASIDE ORDER OF FEDERAL  
POWER COMMISSION.**

---

**FILED FEBRUARY 6, 1943.**



# United States Circuit Court of Appeals

EIGHTH CIRCUIT.

No. 12,466

PANHANDLE EASTERN PIPE LINE COMPANY, A CORPORATION, ILLINOIS NATURAL GAS COMPANY, A CORPORATION, AND MICHIGAN GAS TRANSMISSION CORPORATION, A CORPORATION, PETITIONERS,

vs.

FEDERAL POWER COMMISSION, CITY OF DETROIT, MICHIGAN, COUNTY OF WAYNE, MICHIGAN, MICHIGAN CONSOLIDATED GAS COMPANY, A CORPORATION, AND MICHIGAN PUBLIC SERVICE COMMISSION, RESPONDENTS.

PETITION TO REVIEW AND SET ASIDE ORDER OF FEDERAL POWER COMMISSION.

FILED FEBRUARY 6, 1943.

## Index, Volume I.

|  | Original | Print |
|--|----------|-------|
| Petition of Panhandle Eastern Pipe Line Company, Illinois Natural Gas Company, and Michigan Gas Transmission corporation to review and set aside an order of the Federal Power Commission..... | a        | 1     |
| Nature of proceedings as to which review is sought.....  | b        | 2     |
| Facts and statute upon which venue is based.....   | f        | 6     |
| Points on which petitioners intend to rely.....  | g        | 6     |
| Exhibit A, Opinion No. 80 of Federal Power Commission.....   | ic       | 20    |

|   | Original | Print |
|---|----------|-------|
| Order of Federal Power Commission reducing rates,<br>September 23, 1942   | rr       | 38    |
| Exhibit B, Order of Federal Power Commission extending<br>time within which to file new schedules of rates and charges,<br>October 12, 1942 | yy       | 43    |
| Transcript of Testimony before Federal Power Commission   | 1        | 45    |
| Testimony   | 19       | 46    |
| Manfred K. Toeppen  | 19       | 46    |
| C. H. M. Burnham  | 337      | 101   |
| Rufus M. Smith  | 421      | 136   |
| Glenn G. Bartle   | 433      | 137   |
| R. J. Wallace   | 443      | 138   |
| Louis Fenn Sperry   | 452      | 139   |
| Oscar William Morton  | 475      | 151   |
| P. McDonald Biddison  | 491      | 159   |
| O. W. Morton, resumed   | 622      | 200   |
| C. H. Hinton  | 653      | 209   |
| C. H. M. Burnham, resumed   | 753      | 238   |
| Leith V. Watkins  | 856      | 265   |
| Minutes of meeting of Board of Directors of Panhandle<br>Eastern Pipe Line Company of September 3, 1930                                     | 896      | 285   |
| David Friday  | 933      | 303   |
| P. McDonald Biddison, resumed   | 982      | 331   |
| Paul Brown Coffman  | 995      | 338   |
| P. McDonald Biddison, resumed   | 1150     | 430   |
| C. H. Hinton, resumed   | 1305     | 487   |
| P. McDonald Biddison, resumed   | 1408     | 494   |
| Leith V. Watkins, resumed   | 1476     | 509   |

## Index, Volume II.

|   |      |     |
|---|------|-----|
| Louis Fenn Sperry, recalled                           | 1493 | 521 |
| Ralph E. Davis  | 1496 | 522 |
| J. D. Creveling                                       | 1588 | 546 |
| George S. Young                                       | 1664 | 578 |
| Henry C. Lehn   | 1678 | 584 |
| Howard S. Riddle                                      | 1682 | 587 |
| Francis S. Haberly                                    | 1718 | 601 |
| Fred A. Spitznagle                                    | 1811 | 633 |
| George S. Young, resumed                              | 1860 | 649 |
| Robert S. Drew  | 1911 | 667 |
| Francis S. Haberly, resumed                           | 1933 | 672 |
| Fred A. Spitznagle, resumed                           | 1952 | 682 |
| Daniel C. Green                                       | 1971 | 691 |
| Walter C. Beckjord                                    | 2016 | 700 |
| P. McDonald Biddison, resumed                         | 2119 | 712 |
| Excerpt from Exhibit 62                               | 2627 | 789 |
| O. W. Morton, resumed                                 | 2864 | 892 |
| Letter, O. W. Morton to G. J. Neuner, August 19, 1941 | 3142 | 996 |

## Index, Volume III.

|   |      |      |
|---|------|------|
| P. McDonald Biddison, resumed                               | 3216 | 1049 |
| Letter, J. D. Creveling to Leon M. Fuquay, July 23,<br>1941 | 3643 | 1053 |

|  | Original Print |      |
|--|----------------|------|
| Letter, Leon M. Fuquay to J. D. Craveling, July 26, 1941   | 3645           | 1054 |
| Telegram, Panhandle Eastern Pipe Line Company to Leon M. Fuquay, July 28, 1941   | 3646           | 1055 |
| Exhibit 39-A, Statement relating to Reproduction Cost New of Plant, Property and Business of Panhandle Eastern Pipe Line Company, etc. | 3785           | 1075 |
| Rufus M. Smith, resumed  | 4113           | 1144 |
| C. H. Hinton, resumed  | 4165           | 1174 |
| Rufus M. Smith, resumed  | 4187           | 1179 |
| Glenn G. Bartle, resumed   | 4352           | 1271 |
| Louis F. Sperry, resumed   | 4560           | 1307 |
| C. H. Hinton, resumed  | 4775           | 1421 |

### Index, Volume IV.

|                           |      |      |
|---------------------------|------|------|
| C. H. M. Burnham, resumed | 5939 | 1929 |
|---------------------------|------|------|

### Index, Volume V.

|                           |      |      |
|---------------------------|------|------|
| Leith V. Watkins, resumed | 6163 | 2037 |
| Paul B. Coffman, resumed  | 6534 | 2211 |

### Index, Volume VI.

|   |      |      |
|---|------|------|
| Leith V. Watkins, resumed   | 7050 | 2514 |
| Letter, Ralph M. Shaw to Frank P. Parrish, October 2, 1931                        | 7385 | 2654 |
| Paul B. Coffman, resumed  | 7451 | 2663 |
| George S. Young, resumed  | 7933 | 2806 |
| Henry C. Lehn, resumed  | 8037 | 2857 |
| F. S. Haberly, resumed  | 8070 | 2874 |
| Fred A. Spitznagle, resumed   | 8172 | 2921 |
| Limitation Order L-31, "To Curtail Consumption of Natural Gas"                    | 8272 | 2950 |
| Exhibit A, Areas subject to prohibitions contained in paragraph (c) of Limitation | 8280 | 2956 |
| Robert S. Drew, resumed   | 8366 | 2998 |

### Index, Volume VII.

|  |      |      |
|--|------|------|
| Fred A. Spitznagle, resumed  | 8461 | 3050 |
| George S. Young, resumed   | 8525 | 3062 |
| Order of Securities and Exchange Commission in the Matter of Columbia Gas & Electric Corporation et al.  | 8555 | 3078 |
| Daniel C. Green, resumed   | 8558 | 3080 |
| Robert S. Drew, resumed  | 8706 | 3169 |
| Fred A. Spitznagle, resumed  | 8721 | 3185 |
| Robert S. Drew, resumed  | 8741 | 3188 |
| Leith V. Watkins, resumed  | 8887 | 3208 |
| Order of Federal Power Commission denying application for Extension of Time for Compliance with the provisions of Gas Plant Accounts Instruction 2 D of Uniform System of Accounts and Commission's Order No. 73 | 9020 | 3235 |
| C. H. Lewis  | 9023 | 3236 |
| Leith V. Watkins, resumed  | 9136 | 3270 |

|                                 | Original | Print |
|---------------------------------|----------|-------|
| William G. Maguire.....         | 9247     | 3300  |
| Leith V. Watkins, resumed.....  | 9329     | 3351  |
| David Friday, resumed.....      | 9349     | 3353  |
| O. W. Morton, resumed.....      | 9364     | 3361  |
| Charles W. Smith.....           | 9476     | 3411  |
| Edward L. Dunn.....             | 9570     | 3433  |
| Charles H. Hinton, resumed..... | 9669     | 3478  |
| C. H. M. Burnham, resumed.....  | 9784     | 3533  |

## Index, Volume VIII.

|  |       |      |
|--|-------|------|
| Leith V. Watkins, resumed.....   | 9838  | 3557 |
| Report, P. McDonald Biddison, Consulting Engineer,<br>to J. D. Creveling, President, Panhandle Eastern Pipe<br>Line Company, November 24, 1941.....  | 9890  | 3588 |
| C. H. M. Burnham, resumed.....   | 9898  | 3592 |
| Leonard Spacek.....  | 9928  | 3608 |
| Letter, P. McDonald Biddison to Panhandle Eastern<br>Pipe Line Company, April 8, 1942.....   | 9942  | 3616 |
| P. McDonald Biddison, resumed.....   | 9977  | 3631 |
| Paul B. Coffman, resumed.....  | 10076 | 3676 |
| P. McDonald Biddison, resumed.....   | 10399 | 3853 |
| Leith V. Watkins, resumed.....   | 10152 | 3882 |
| P. McDonald Biddison, resumed.....   | 10534 | 3919 |
| J. D. Creveling, resumed.....  | 10559 | 3933 |
| Samuel Joseph.....   | 10659 | 3976 |
| Statement relating to Production from Hugoton Field.....   | 10679 | 3987 |
| Letter, O. W. Morton to Federal Power Commission,<br>April 9, 1942.....  | 10698 | 3989 |
| Letter, O. W. Morton to Federal Power Commission,<br>April 11, 1942.....   | 10699 | 3990 |
| J. G. Shattuck.....  | 10701 | 3991 |
| Exhibit.....   |       |      |
| 1. Statement of operating Results of Panhandle Eastern<br>Pipe Line Company and Michigan Gas Transmission<br>Company, 1938-1940.....   | 10770 | 4012 |
| Operating Results.....   | 10775 | 4012 |
| Cost, and Cost Less Reserves, of Plant and Operating<br>Results as of December 31, 1938.....   | 10777 | 4013 |
| Cost, and Cost Less Reserves, of Plant and Operating<br>Results as of December 31, 1939.....   | 10778 | 4014 |
| Cost, and Cost Less Reserves, of Plant and Operating<br>Results as of December 31, 1940.....   | 10779 | 4015 |
| Working Capital Estimate, December 31, 1938-39-40.....   | 10780 | 4016 |
| Working Capital Estimate Approximate Payroll Basis;<br>December 31, 1940.....  | 10782 | 4017 |
| 2. Determination of possible Revenue Reduction of Pan-<br>handle Eastern Pipe Line Company and Michigan Gas<br>Transmission Company.....   | 10783 | 4018 |
| 3. Excerpts from Registration Statement of Panhandle<br>Eastern Pipe Line Company, filed with the Securities &<br>Exchange Commission, February 12, 1937, with respect<br>to Gas Reserves..... | 10785 | 4019 |

|  |       |      |
|--|-------|------|
| 4, Excerpt from Registration Statement of Panhandle Eastern Pipe Line Company filed with the Securities & Exchange Commission, November 13, 1940, with respect to Gas Reserves.                                      | 10786 | 4021 |
| 5, Excerpts from Registration Statement of Panhandle Eastern Pipe Line Company filed with the Securities & Exchange Commission, November 13, 1940, with respect to Design, Construction and Maintenance of Property. | 10789 | 4925 |
| 6, Statement of Operating Expenses and Taxes at 100% Load Factor Operation.  | 10791 | 4029 |
| 7, Statement as to necessary Price per M. C. F. at 100% Load Factor.   | 10793 | 4030 |
| 8, Statement of estimated Effect of 100% Load Factor on earning Power of System.   | 10795 | 4030 |
| 9, Statement of Factor affecting the Nature and Magnitude of reported Net Incomes.   | 10796 | 4031 |
| 10, Statement showing Effect of Variation in accounting Practices on Reported Incomes of an Enterprise.  | 10799 | 4034 |
| 11, Chart showing Relation of Yield of United States Treasury Bonds and Notes.   | 10800 | 4035 |
| 12, Statement showing United States Treasury Bond Yields.  | 10801 | 4037 |
| 13, Chart showing History of Yields of United States Bonds, 1920-1939.   | 10806 | 4045 |
| 14, Average Yield of United States Treasury Bond.  | 10807 | 4047 |
| 14-A, Securities & Exchange Commission Releases Nos. 2778 and 2834 — Findings and Opinion of the Commission in the Matters of Panhandle Eastern Pipe Line Company, et al.  | 10808 | 4047 |

### Index, Volume IX.

|  |       |      |
|--|-------|------|
| Order of Securities & Exchange Commission Denying Applications in Part and granting Applications in Part.  | 10842 | 4087 |
| Supplemental Order of Securities & Exchange Commission amending Findings and Opinion.  | 10844 | 4089 |
| 17, Miscellaneous Data concerning Property and Operations of Panhandle Eastern Pipe Line Company.  | 10848 | 4090 |
| Schedule 1, Panhandle Eastern Pipe Line Company System Compressor Stations.  | 10848 | 4090 |
| Schedule 2, List of Communities receiving Service directly or indirectly from Panhandle Company including Population and Number of Customers as of June 30, 1941.      | 10849 | 4091 |
| Schedule 3, List of Industrial Customers receiving Service direct from Panhandle Company System, June 30, 1941.  | 10853 | 4099 |
| Schedule 11, Panhandle Eastern System Summary.   |       |      |
| Miles of Pipe by Sizes, June 30, 1941.   | 10926 | 4101 |
| 30, Testimony of Rufus M. Smith.   | 10958 | 4103 |
| Schedule 2, Estimated Original Gas Content in the Texas Panhandle Field under Acreage constituting Reserves of Panhandle Eastern Pipe Line Company as of July 1, 1941. | 10986 | 4125 |

|   |       |      |
|---|-------|------|
| Schedule 3, Estimated Remaining Gas Content in the Texas Panhandle Field under Acreage constituting Reserves of Panhandle Eastern Pipe Line Company as of July 1, 1941.....                                       | 10987 | 4125 |
| Schedule 5, Comparison of Open Flow Potentials in Texas Panhandle Gas Field.....  | 10990 | 4129 |
| Schedule 6, Gas Acreage owned and under Gas Purchase Contracts held by Panhandle Eastern Pipe Line Company as of June 30, 1941.....   | 10991 | 4131 |
| Schedule 7, Hugoton Production to Argus Natural Gas Company, Inc. by Panhandle Eastern Pipe Line Company, et al.....  | 10992 | 4133 |
| Schedule 8, Texas Production to Panhandle Eastern Pipe Line Company.....  | 10993 | 4135 |
| Schedule 9, Hugoton Production to Panhandle Eastern Pipe Line Company.....  | 10997 | 4143 |
| Schedule 10, Hugoton Production to Panhandle Eastern Pipe Line Company.....   | 11000 | 4149 |
| Schedule 11, Analysis of Cumulative Production to Main Line to and including Fiscal Month of June 1941.....   | 11003 | 4155 |
| Schedule 12, Comparative Statement of Production and Purchases from each District for the two Years ended June 22, 1940 and June 22, 1941.....  | 11004 | 4157 |
| 36, Testimony of Glenn G. Bartle.....   | 11010 | 4159 |
| Schedule 3, Estimated Original Gas Content in the Hugoton Field, (Kansas, Oklahoma and North Texas Panhandle), under Acreage constituting Reserves of Panhandle Eastern Pipe Line Company as of July 1, 1941..... | 11038 | 4176 |
| Schedule 4, Estimated unmetered Gas from Panhandle Eastern Pipe Line Company Wells in the Hugoton Field Kansas, connected to Argus Natural Gas Company, Inc. as of July 1, 1941.....                              | 11041 | 4181 |
| 37, Testimony and Exhibits, Market Value of Leases of Panhandle Eastern Pipe Line Co.....   | 11047 | 4187 |
| R. J. Wallace.....  | 11045 | 4187 |
| Summary of Market Value of Leases.....  | 11064 | 4196 |
| 38, Basic Statistics used in calculating Interest, ad valorem Taxes and operating Expense attributable to unused Capacity.....  | 12159 | 4203 |
| 39, Reproduction Cost New of Plant, Property and Business of Panhandle Eastern Pipe Line Company and subsidiary Companies as of June 30, 1941.....  | 12162 | 4206 |
| Letter P. McDonald Biddison, Consulting Engineer, to Panhandle Eastern Pipe Line Company, August 29, 1941.....  | 12163 | 4206 |
| Statement relating to Reproduction Cost—New—June 30, 1941.....  | 12164 | 4207 |
| Summary.....  | 12165 | 4207 |
| 39-A, Reproduction Cost New of Plant, Property and Business of Panhandle Eastern Pipe Line Company and subsidiary Companies as of June 30, 1941.....  | 13130 | 4208 |
| Letter P. McDonald Biddison, Consulting Engineer, to Panhandle Eastern Pipe Line Company, August 29, 1941.....  | 13130 | 4208 |



|  |       |      |
|--|-------|------|
| Statement relating to Reproduction Cost New—June 30, 1941 .....  | 13131 | 4209 |
| Summary .....  | 13133 | 4209 |
| 40. Table showing estimated Main Life Sales, years 1941-1946, inclusive .....  | 13149 | 4211 |
| 41. Graph showing Sales and Gas Plant by Years, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 13150 | 4213 |
| 42. Testimony of C. H. Hinton relating to Future Capital Expenditures and Operating Expenses in Production and Gathering System West and South of Liberal, Kansas .....              | 13151 | 4275 |
| 43. Schedules presented in connection with the written Testimony of C. H. Hinton .....   | 13193 | 4244 |
| Schedule 1, Additional Capital Expenditures required to produce and gather Basic Load, or Present Requirements .....   | 13194 | 4244 |
| Schedule 2, Additional Capital Expenditures required to produce and gather Anticipated Increased Load .....  | 13195 | 4244 |
| Schedule 3, Estimate of Operation and Maintenance Costs west of Liberal Panhandle Field — Basic Load .....   | 13196 | 4245 |
| Schedule 4, Estimate of Operation and Maintenance Costs — west of Liberal Panhandle Field — Estimated Future Load .....  | 13199 | 4251 |
| Schedule 5, Probable Production from Panhandle Eastern's own Wells and Wells under Gas Contracts (Panhandle Field) during the Period July 1, 1940 to December 31, 1956 .....         | 13202 | 4257 |
| 47. Panhandle Eastern Pipe Line Company and Subsidiary Companies, future Capital Requirements, Gas Transmission Facilities, Liberal Station and Eastward .....                       | 13206 | 4257 |
| 48. Statement showing Balance Sheets per Books Panhandle Eastern Pipe Line Company and Subsidiary Companies, as at each December 31, 1930 through 1940 and as at June 30, 1941 ..... | 13207 | 4259 |
| 49. Income Statement per Books — Period from April 1, 1932 to December 31, 1941 .....  | 13210 | 4265 |
| 50. Statement showing Earned Surplus per Books, Period from Commencement of Operations to June 30, 1941 .....  | 13212 | 4269 |
| 51. Statement showing Capital Surplus per Books, Period from September 1, 1930 to June 30, 1941 .....  | 13214 | 4273 |
| 52. Statement showing Investment in Gas Plant as at each December 31, 1930 through 1940 and as at June 30, 1941 .....  | 13215 | 4275 |
| 53. Statement of Dividends paid on Class A and Class B Preferred Stocks from beginning to September 1, 1941 .....  | 13217 | 4279 |
| 54. Statement of Dividends paid on Common Stock from beginning to September 1, 1941 .....  | 13219 | 4280 |
| 55. Statement showing Comparison of Sales and Revenue, Principal Industrial Customers, years 1939, 1940 and 1941 .....   | 13220 | 4281 |
| 55 A. Statement showing Comparison of Sales and Revenue, Principal Industrial Customers, years 1939, 1940, and 1941 .....  | 13221 | 4283 |
| 56. Statement of Gas Produced, Period from April 1, 1932 to June 30, 1941 .....  | 13222 | 4284 |
| 57. Statement of Gas Purchased, Period from April 1, 1932 to June 30, 1941 .....   | 13223 | 4285 |

|  |       |      |
|--|-------|------|
| 58, Statement of Gas Revenue, Period from April-1, 1932 to June 30, 1941 and Schedule showing Detail of Sales to various Types of Customers, 1939 and 1940   | 13224 | 4287 |
| Schedule 1, Statement of Gas Revenue, Period from April 1, 1932 to June 30, 1941   | 13224 | 4287 |
| Schedule 2, Detail of Sales to Gas Utilities, years 1939 and 1940  | 13225 | 4289 |
| Schedule 3, Detail of Sales to Industrial Customers, years 1939 and 1940   | 13227 | 4293 |
| 59, Statement of Gas Revenue by States, Period from April 1, 1932 to December 31, 1941   | 13229 | 4297 |
| 60, Statement showing Sales Agreements with other Gas Companies as at June 30, 1941  | 13230 | 4299 |
| 61, Study of Current and Future Trends in Commodity Prices and Wages, by David Friday  | 13238 | 4310 |
| Graph showing Wholesale Prices from 1800 to 1940   | 13239 | 4311 |
| Index Numbers of Wholesale Prices of Commodities by Groups   | 13241 | 4313 |
| Commodity Price Indexes of Ten Countries   | 13247 | 4318 |
| Statement relating to Tax Collections, in the United States, from 1913 to 1942   | 13258 | 4328 |
| Index Numbers of Wholesale Prices of all Commodities by Months, from 1800 to 1940  | 13263 | 4333 |
| Statement relating to Wholesale Prices for Week Ended September 26, 1941   | 13264 | 4335 |
| Graph relating to Average Weekly Earnings in Manufacturing Industries of New York State from 1914 to 1941  | 13266 | 4339 |
| Graph relating to Average Hourly Earnings and Average Actual Hours per Week per Worker in twenty-five Manufacturing Industries from 1914 to 1941   | 13267 | 4341 |
| Graph relating to Average Cost of Living from 1935 to 1939   | 13268 | 4343 |
| 62, Deduction from Cost of Reproduction New for Depreciation and Present Value of Plant, Property and Business as of June 30, 1941   | 13270 | 4345 |
| Letter from P. McDonald-Brighton, Consulting Engineer, to Panhandle Eastern Pipe Line Company, September 30, 1941  | 13271 | 4345 |
| General Summary  | 13272 | 4347 |
| 63, Investors' Appraisal of the Risk of Capital in the Natural Gas Industry as compared with other Divisions of the Utility Industry, Summary of Analyses, prepared by Paul B. Coffman, Vice-President of Standard and Poors Corporation | 13321 | 4349 |
| Table of Contents  | 13322 | 4349 |
| Statement of Experience and Qualifications of Paul B. Coffman  | 13327 | 4354 |
| Investors' Appraisal of Capital Risks in Various Divisions of the Utility Industry   | 13348 | 4371 |
| Statement A, Investors' Appraisal of Risks of Capital for the years 1937, 1938, 1939 and 1940  | 13357 | 4373 |



|  |       |      |
|--|-------|------|
| Statement A-1, Investors' Appraisal of Risks of Capital for the Interim Period of 1941, January-August, Both Inclusive.....                          | 13352 | 4375 |
| Statement B, Investors' Appraisal of Risks of Capital for the years 1937, 1938, 1939 and 1940.....   | 13353 | 4377 |
| Statement B-1, Investors' Appraisal of Risks of Capital for the Interim Period of 1941, January-August, Both Inclusive.....                          | 13354 | 4379 |
| Statement C, Investors' Appraisal of Risks of Capital for the years 1937, 1938, 1939 and 1940.....   | 13355 | 4381 |
| Statement C-1, Investors' Appraisal of Risks of Capital for the Interim Period of 1941, January-August, Both Inclusive.....                          | 13356 | 4383 |
| Statement D, Investors' Appraisal of Risks of Capital for the years 1937, 1938, 1939 and 1940.....   | 13357 | 4385 |
| Statement D-1, Investors' Appraisal of Risks of Capital for the Interim Period of 1941 January-August, Both Inclusive.....                           | 13358 | 4387 |
| Statement E, Investors' Appraisal of Risks of Capital for the years 1937, 1938, 1939 and 1940.....   | 13359 | 4389 |
| Statement E-1, Investors' Appraisal of Risks of Capital for the Interim Period of 1941, January-August, Both Inclusive.....                          | 13360 | 4391 |
| Statement F, General Information Covering each Company as to the Nature and Size of the Business and the Territory served.....                       | 13361 | 4393 |
| 64. Statistics supporting Data, Exhibit 63, Appendixes A, B, and C.....  | 13379 | 4414 |
| Appendix A, Complete List of Companies studied and Reasons for eliminating those not used to determine Investors' Appraisal of Risks of Capital..... | 13380 | 4414 |
| Appendix B, Securities of forty-three Natural Gas Companies considered Representative of the Industry, etc.....                                      | 13387 | 4426 |

### Index, Volume X.

|  |       |      |
|--|-------|------|
| Appendix C, Working Papers showing the Computation of Investors' Appraisal of the Risks of Capital.....  | 13398 | 4446 |
| Water Companies.....   | 13399 | 4447 |
| Electric Operating Utility Companies.....  | 13420 | 4461 |
| Manufactured and Mixed Gas Companies.....  | 13465 | 4501 |
| Natural Gas Companies.....   | 13495 | 4521 |
| 65. Study relative to Rate of Return on Panhandle Eastern Pipe Line Company prepared by Paul B. Coffman, Vice President, Standard and Reors Corporation..... | 13533 | 4547 |
| Table of Contents.....   | 13534 | 4547 |
| Chart No. 1, Main Transmission System of Panhandle Eastern Pipe Line Co. and Subsidiary.....   | 13542 | 4559 |
| Chart No. 2, Growth of Natural Gas Industry in United States of America from 1906 to 1940.....   | 13548 | 4567 |
| Chart No. 3, Consumption of Natural Gas in United States of America from 1919 to 1940.....   | 13550 | 4571 |
| Chart No. 4, Revenue from Natural Gas Consumed in United States of America from 1919 to 1940.....  | 13552 | 4573 |

|  |       |      |
|--|-------|------|
| Chart No. 5, Average Revenue per M. C. F. from 1929 to 1940 .....  | 13554 | 4575 |
| Chart No. 6, Panhandle Sales by States, vs. Industry Consumption of Natural Gas from 1934 to 1940 .....                          | 13556 | 4577 |
| Chart No. 7, Trends of Gross Revenue from 1934 to 1940, Panhandle vs. other Pipe Line Companies and Industry .....               | 13558 | 4579 |
| Chart No. 8, Operating Ratio of Panhandle Compared with other Pipe Line Companies from 1934 to 1940 .....                        | 13560 | 4581 |
| Chart No. 9, Trend of Revenue and Expenses of Panhandle Eastern Pipe Line Company from 1934 to 1940 .....                        | 13562 | 4583 |
| Chart No. 10, Percent Earned on Invested Capital of Panhandle Based upon Capital Structure .....                                 | 13564 | 4585 |
| Chart No. 11, Percent Earned on Invested Capital of Panhandle Based upon Net Property, Intangibles and Working Capital .....     | 13566 | 4587 |
| Chart No. 12, Return to Common Stockholders of Panhandle Eastern Pipe Line Company from 1934 to 1940 .....                       | 13568 | 4589 |
| Chart No. 13, New Tax Bill will reduce Income sharply Computations based on Operations — Twelve Months ended June 30, 1941 ..... | 13570 | 4591 |
| Chart No. 14, Percent Earned on Invested Capital of Panhandle Eastern Pipe Line Company — as of June 30, 1941 .....              | 13572 | 4593 |
| Chart No. 15, Percent Earned on Invested Capital of Panhandle Eastern Pipe Line Company — as of June 30, 1941 .....              | 13574 | 4595 |
| Chart No. 16, Historical Costs of Debt Capital of Panhandle Eastern Pipe Line Company — from 1930 to 1941 .....                  | 13576 | 4599 |
| Chart No. 17, Effect of 1941 Refinancing of Panhandle Eastern Pipe Line Company .....  | 13578 | 4603 |
| Chart No. 18, Historical Costs of Preferred Stock Capital of Panhandle Eastern Pipe Line Company from 1937 to 1941 .....         | 13580 | 4605 |
| Chart No. 19, Earnings — Price Ratios of Natural Gas Pipe Line Common Stocks from 1937 to 1940 .....                             | 13582 | 4607 |
| Chart No. 20, Current Earnings — Price Ratios of Natural Gas Pipe Line Common Stocks .....                                       | 13584 | 4609 |
| Chart No. 21, Cost of Financing Northern Natural Gas Company Common Stock — Offered to Public on September 10, 1941 .....        | 13586 | 4613 |
| Chart No. 22, Estimated Current Cost of Financing Common Stock of Panhandle Eastern Pipe Line Company .....                      | 13588 | 4615 |
| Chart No. 23, Continuing Growth of Panhandle System Indicates Future Needs for New Capital .....                                 | 13590 | 4617 |
| Chart No. 24, Panhandle Eastern Pipe Line Company Invested Capital as of June 30, 1941 .....                                     | 13592 | 4621 |
| Chart No. 25, Preferred Stock Unusual in Natural Gas Pipe Line Companies .....   | 13594 | 4623 |
| Chart No. 26, Earnings Necessary to Maintain Credit Position of Panhandle Eastern Pipe Line Company .....                        | 13596 | 4625 |
| Chart No. 27, Earnings Necessary to Maintain Credit Position of Panhandle Eastern Pipe Line Company .....                        | 13598 | 4627 |
| Chart No. 28, Overall Cost of Capital to Panhandle Eastern Based on Ideal Capital Structure .....                                | 13600 | 4629 |

|  |       |      |
|--|-------|------|
| Chart No. 29, Dollars needed Annually by Panhandle for Operations and Maintenance.....   | 13602 | 4633 |
| Chart No. 30, Dollars needed Annually by Panhandle for Taxes.....  | 13604 | 4637 |
| Chart No. 31, Dollars needed Annually by Panhandle to return Capital to Investors when Gas Reserves are Exhausted.....   | 13606 | 4639 |
| Chart No. 32, Dollars needed Annually by Panhandle for current Capital Requirements — Bonds.....   | 13608 | 4641 |
| Chart No. 33, Dollars needed Annually by Panhandle for current Capital Requirements — Preferred Stock.....   | 13610 | 4643 |
| Chart No. 34, Dollars needed Annually by Panhandle for current Capital Requirements — Common Stock.....  | 13612 | 4645 |
| Chart No. 35, Dollars needed Annually by Panhandle for total current Capital Requirements — Total Invested Capital.....  | 13614 | 4647 |
| Chart No. 36, Dollars needed Annually by Panhandle to provide Service to Customers, a Fair Return to Investors and restore Invested Capital when Gas Reserves are Exhausted..... | 13616 | 4649 |
| Chart No. 37, Dollars needed Annually by Panhandle to Provide Service to Customers, a Fair Return to Investors and restore Invested Capital when Gas Reserves are Exhausted..... | 13618 | 4651 |
| Table for Chart No. 2, Growth of Natural Gas in the United States of America for the years 1906 to 1940, Inclusive.....  | 13619 | 4653 |
| Table for Chart No. 3, Consumption of Natural Gas in the United States of America for the years 1919 to 1940, Inclusive.....   | 13620 | 4655 |
| Table for Chart No. 4, Revenue from Natural Gas Consumed in the United States of America for the years 1919 to 1940, Inclusive.....  | 13621 | 4657 |
| Table for Chart No. 5, Average Revenue per M <sup>c</sup> . C. F. from Natural Gas Consumed in United States of America at Points of Consumption.....                            | 13622 | 4659 |
| Table for Chart No. 6, Natural Gas Sales by States for the years 1934 to 1940, Inclusive.....  | 13623 | 4661 |
| Table for Chart No. 7, Trend of Gross Revenue, Panhandle Eastern Pipe Line Company vs. Other Pipe Line Companies and the Natural Gas Industry, 1934 to 1940 Both Inclusive.....  | 13624 | 4663 |
| Table for Chart No. 8, Operating Ratio of Panhandle Eastern Pipe Line Company compared with other Pipe Line Companies exclusive of Taxes, 1934 to 1940.....                      | 13625 | 4665 |
| Table for Chart No. 9, Panhandle Eastern Pipe Line Company, Trend of Revenue and Expenses.....   | 13627 | 4669 |
| Table for Chart No. 10, Percent Earned on Invested Capital, based upon Capital Structure.....  | 13628 | 4671 |
| Table for Chart No. 11, Percent Earned on Invested Capital, based upon Net Property, Intangibles and Working Capital.....  | 13629 | 4673 |
| Table for Chart No. 12, Return to Common Stockholders 1934 to 1940 Both Inclusive.....   | 13630 | 4675 |

|  | Original Print |      |
|--|----------------|------|
| Table for Chart No. 13, Consolidated Statement of Profit and Loss for the twelve months ended June 30, 1941  | 13631          | 4677 |
| Table for Chart No. 14, Percent Earned on Invested Capital — twelve months ended June 30, 1941   | 13632          | 4679 |
| Table for Chart No. 15, Percent Earned on Invested Capital in the twelve months ended June 30, 1941  | 13633          | 4681 |
| Table for Chart No. 16, Computation of Weighted Average Cost Ratio of all Bond Issues 1930 — June 30, 1941   | 13634          | 4683 |
| Table for Chart No. 17, Projection of Average Interest Cost, Debt Retirement and Amounts to be outstanding of Debt issued in the 1941 Refinancing  | 13639          | 4693 |
| Table for Chart No. 18, Preferred Stock  | 13640          | 4695 |
| Table for Chart No. 19, Earnings — Price Ratios on Natural Gas Pipe Line Common Stocks from 1937 to 1940   | 13641          | 4697 |
| Table for Chart No. 20, Current Earnings — Price Ratios on Natural Gas Pipe Line Common Stocks   | 13642          | 4699 |
| Table for Chart No. 21, Data regarding Public Offering of 355,250 Shares Northern Natural Gas Company Common Stock   | 13643          | 4701 |
| Table for Chart No. 23, Statistics of Growth from 1936 to 1940   | 13644          | 4703 |
| Table for Chart No. 25, Ratio of Preferred Stock to total Capitalization in Natural Gas Pipe Line Companies as of December 31, 1940  | 13645          | 4705 |
| Table for Chart No. 26, Earnings Necessary to Maintain Credit Position based on Invested Capital as of June 30, 1941   | 13646          | 4707 |
| Table for Chart No. 27, Earnings Necessary to Maintain Credit Position, etc.   | 13647          | 4709 |
| Table for Charts Nos. 29 to 36, Inclusive, Dollars needed Annually to provide Service to Customers, a Fair Return to Investors and Return of Invested Capital when Reserves are Exhausted  | 13648          | 4711 |
| Table for Chart No. 37, Dollars needed Annually to provide Service to Customers, a Fair Return to Investors and Return of Invested Capital when Reserves are Exhausted   | 13649          | 4713 |
| 69, Statement showing Amount of Depreciation on Book Cost of Property as of June 30, 1941  | 13700          | 4715 |
| 70, Reproduction Cost New of Plant, Property and Business as of June 30, 1941 (Determined from Valuation of September 30, 1938 by addition of Net Property Additions, plus Items of Working Capital, Value of Gas Purchase Contracts and Cost of Business Development from Valuation of June 30, 1941) | 13711          | 4719 |
| 71, Valuation of Property, Plant and Equipment, September 30, 1938   | 13712          | 4719 |
| Letter from P. McDonald Bidlison, Consulting Engineer, to Panhandle Eastern Pipe Line Company, October 14, 1938  | 13713          | 4719 |

|  |       |      |
|--|-------|------|
| Statement relating to Appraisal of Property of Panhandle Eastern Pipe Line Company as of September 30, 1938  | 13719 | 4721 |
| 72. Statement of Net Additions to Gas Plant per Books from October 1, 1938 to June 30, 1941  | 14178 | 4723 |
| 74. Working Capital  | 14198 | 4724 |
| Table I, Total Additional Necessary Materials and Supplies by Departments  | 14198 | 4724 |
| Table II, Additional Necessary Materials and Supplies by Departments, Classified to show the Aggregate Supplies  | 14199 | 4724 |
| Table III, Summary of Minimum Reasonable Amounts of Working Capital Currently Needed   | 14200 | 4725 |
| Table IV, Total Cash, Prepayments, and Materials and Supplies Actually Maintained by the Company at Certain Dates in the Past  | 14201 | 4725 |
| 75. Natural Gas Supply, Value of Gas Reserves and Wells, February 4, 1937  | 14202 | 4726 |
| Letter Ralph E. Davis, Inc., Engineers, to Panhandle Eastern Pipe Line Company and others, February 10, 1937   | 14263 | 4726 |
| Table No. 2, Valuation of Producing and Proven Leases in Producing Area of Amarillo Field  | 14227 | 4744 |
| Table No. 3, Valuation of Producing and Proven Leases in Producing Area of Hugoton Field   | 14228 | 4745 |
| Table No. 8, Classification of Acreage Under Lease, February 1, 1937   | 14233 | 4745 |
| 76. Panhandle Eastern Pipe Line Company Natural Gas Supply   | 14243 | 4746 |
| Letter, Ralph E. Davis, Inc., Engineers, to Board of Directors of Panhandle Eastern Pipe Line Company, November 12, 1940   | 14244 | 4746 |
| Summary of Acreage in Amarillo and Hugoton Fields  | 14248 | 4751 |
| 77. Description of Physical Property of Michigan Gas Transmission Corporation  | 14251 | 4753 |
| Testimony of George S. Young   | 14252 | 4753 |
| Schedule 1, Compressor Stations  | 14272 | 4770 |
| Schedule 2, List of Communities receiving Service from Public Utilities to whom Michigan Gas Transmission Corporation sells Gas Purchased from Panhandle Eastern Pipe Line Company, Population and Number of Customers as of June 30, 1941                               | 14274 | 4771 |
| Schedule 3, List of Industrial Consumers receiving Service on an Interruptible Basis indirectly from Michigan Gas Transmission Corporation System, June 30, 1941   | 14277 | 4779 |
| Schedule 8, Michigan Gas Transmission Corporation Summary of Miles of Pipe by Sizes, June 30, 1941   | 14295 | 4781 |
| 79. Comparison of Daily provided Capacity to deliver Firm Gas with Maximum Daily Delivery of Firm Gas from System of Michigan Gas Transmission Corporation   | 14311 | 4783 |
| 79-A, Comparison of Daily provided Capacity to Deliver Firm Gas with Maximum Daily Delivery of Firm Gas and total delivery of Gas from the Pipe Lines owned or operated by Michigan Gas Transmission Corporation for the Winter Period of 1941-1942 to February 27, 1942 | 14312 | 4785 |

|   |       |      |
|---|-------|------|
| 79-B, Total Delivery of Gas from Pipe Lines owned and operated by Michigan Gas Transmission Corporation on Days on which the Delivery of Firm Gas from System was the Maximum .....   | 14313 | 4787 |
| 80, Report of Inspection of Equipment in the Compressor Stations of the Michigan Gas Transmission Corporation by H. C. Lehn .....   | 14314 | 4789 |
| 81, Depreciation Study, Michigan Gas Transmission Corporation by H. S. Riddle .....   | 14321 | 4791 |
| Letter, H. S. Riddle, Gas Engineering Department, to G. S. Young, Vice President, of Michigan Gas Transmission Corporation, November 10, 1941 .....   | 14322 | 4794 |
| Summary of Inspection Data .....  | 14323 | 4795 |
| 82, Accrued Depreciation on Compressor Station Structure, measuring and regulating Station Structures and Equipment and other Transmission Structures and general Equipment as of June 30, 1941 by Francis S. Haberly ..... | 14369 | 4796 |
| 83, Reproduction Cost new of Plant and Property of Michigan Gas Transmission Corporation as of June 30, 1941 by Francis S. Haberly .....  | 14375 | 4801 |
| Letter Francis S. Haberly, Engineer, to G. S. Young, Vice President, Michigan Gas Transmission Corporation, October 27, 1941 .....  | 14377 | 4801 |
| Table of Contents .....   | 14378 | 4802 |
| Statement of Francis S. Haberly .....   | 14379 | 4802 |
| Summary .....   | 14389 | 4810 |
| Reconciliation of Original Cost and of Reproduction Cost to reflect Changes due to Reclassification .....   | 14390 | 4811 |
| Compressor Station Structures and Improvements .....  | 14391 | 4813 |
| All Stations .....  | 14391 | 4813 |
| Montezuma Compressor Station .....  | 14392 | 4813 |
| Zionsville Compressor Station .....   | 14398 | 4818 |
| Edgerton Compressor Station .....   | 14402 | 4821 |
| Other Transmission System Structures and Improvements .....   | 14405 | 4824 |
| All Locations .....   | 14405 | 4824 |
| Montezuma Compressor Station .....  | 14406 | 4824 |
| Zionsville Compressor Station .....   | 14407 | 4825 |
| Edgerton Compressor Station .....   | 14408 | 4826 |
| Mains .....   | 14409 | 4826 |
| Compressor Station Equipment .....  | 14416 | 4831 |
| All Stations .....  | 14416 | 4831 |
| Montezuma Compressor Station .....  | 14417 | 4831 |
| Zionsville Compressor Station .....   | 14427 | 4839 |
| Edgerton Compressor Station .....   | 14433 | 4844 |
| Measuring and Regulating Station Equipment .....  | 14437 | 4847 |
| General Equipment .....   | 14438 | 4848 |
| Office Furniture and Fixtures .....   | 14439 | 4848 |
| Transportation Equipment .....  | 14440 | 4849 |
| Stores Equipment .....  | 14441 | 4849 |
| Tools and Work Equipment .....  | 14442 | 4849 |
| 84, Reproduction Cost new less Depreciation of Michigan Gas Transmission Corporation as of June 30, 1941 by Francis S. Haberly .....  | 14443 | 4850 |



|  | Original Print |      |
|--|----------------|------|
| Summary .....  | 14444          | 4850 |
| Compressor Station Structures and Improvements ..... | 14445          | 4851 |
| Measuring and Regulating Station Structures .....    | 14446          | 4852 |
| Other Transmission System Structures .....           | 14447          | 4852 |

## Index, Volume XI.

|  |       |      |
|--|-------|------|
| Mains .....  | 14448 | 4853 |
| Compressor Station Equipment .....   | 14449 | 4853 |
| Measuring and Regulating Station Equipment .....   | 14450 | 4854 |
| General Equipment .....  | 14451 | 4855 |
| 87, Materials and Supplies Restatement of Cost of Major Items as of June 30, 1941, Michigan Gas Transmission Corporation by Francis S. Haberly .....   | 14466 | 4856 |
| Materials and Supplies .....   | 14467 | 4856 |
| 88, Michigan Gas Transmission Corporation — Comparative Balance Sheets, per Books as at December 31, 1936 to 1940, inclusive, and June 30, 1941 .....  | 14475 | 4863 |
| 89, Michigan Gas Transmission Corporation Statement showing earned Surplus per Books for the Ten Months ended December 31, 1936, years 1937 to 1940, inclusive, year and six months ended June 30, 1941 .....      | 14477 | 4867 |
| 90, Michigan Gas Transmission Corporation — Statement showing Capital Surplus, per books, for the Ten Months ended December 31, 1936, years 1937 to 1940, inclusive, year and six months ended June 30, 1941 ..... | 14478 | 4869 |
| 91, Michigan Gas Transmission Corporation — Preliminary Report on Original Cost Studies by Central Service Corporation .....   | 14479 | 4871 |
| Statement A, Outline of Origin and Development .....   | 14489 | 4878 |
| Statement A-1, Common Stock issued and Outstanding at January 1, 1940 and June 30, 1941 .....  | 14492 | 4881 |
| Statement B, Statement showing Acquisition by Reporting Company or Predecessors of Gas Operating Unit or System, etc. ....   | 14493 | 4883 |
| Statement D, Statement relating to Gas Plant as of January 1, 1940, etc. ....  | 14494 | 4885 |
| Statement E, Statement showing Summary of Adjustment relating to Gas Plant, etc. ....  | 14495 | 4886 |
| Statement F, Statement relating to Gas Plant as of January 1, 1940, etc. ....  | 14496 | 4887 |
| Statement G, Statement relating to Balance Sheet as of January 1, 1940, etc. ....  | 14498 | 4891 |
| Statement H, Statement relating to Suggested Plan for Depreciation; etc. ....  | 14499 | 4893 |
| Statement I, Statistical Information Relative to Gas Plant at June 30, 1941 .....  | 14500 | 4893 |
| 92, Michigan Gas Transmission Corporation Statement showing Original Cost Depreciated to present Conditions as at June 30, 1941 and observed Depreciation as at June 30, 1941 .....                                | 14507 | 4903 |

|  |       |      |
|--|-------|------|
| 93, Michigan Gas Transmission Corporation — Statement of Contributions made to Customers for Business Development for the years 1936, 1937 and five months ended May 31, 1938 .....  | 14508 | 4905 |
| 94, Michigan Gas Transmission Corporation Statement showing working Capital as of June 30, 1941 .....  | 14510 | 4908 |
| 95, Michigan Gas Transmission Corporation — Estimated Cost of Completing work in Progress at June 30, 1941 and Estimated Gross Income to be derived from the Completed Projects .....  | 14517 | 4919 |
| 97, Michigan Gas Transmission Corporation — Variation in Purchase Power of Dollars Related to Gas Plant .....  | 14519 | 4921 |
| Graph relating to Variation in Purchasing Power of the Dollar spent for Main Compressor Units .....  | 14522 | 4923 |
| Graph relating to Variation in Purchasing Power of the Dollar spent for Steel Pipe .....   | 14523 | 4925 |
| Graph relating to Variation in Purchasing Power of the Dollar spent for Station Structure Materials .....  | 14524 | 4927 |
| Graph relating to Variation in Purchasing Power of the Dollar spent for Station Structure Labor .....  | 14525 | 4929 |
| Graph relating to Variation in Purchasing Power of the Dollar spent for Station Equipment Labor .....  | 14526 | 4931 |
| Graph relating to Variation in Purchasing Power of the Dollar spent for Mains Installations .....  | 14527 | 4933 |
| Statement relating to Variation in Purchasing Power of the Dollar as related to "Gas Plant" .....  | 14528 | 4935 |
| 99, Michigan Gas Transmission Corporation — Statement of Income and Expense per books for years ended December 31, 1936 to 1940 inclusive, twelve Months ended June 30, 1941 and six Months ended June 30, 1941 and December 31, 1940 .....  | 14530 | 4937 |
| 100, Michigan Gas Transmission Corporation — Statement of Income and Expense per books and after Adjustments and redistributions necessary to reflect the 2-6 months Period per books on an annual basis, for six months ended December 31, 1940 and June 30, 1941 and for twelve months ended June 30, 1941 ..... | 14533 | 4943 |
| 101, Michigan Gas Transmission Corporation — Comparative Statement of Operating Revenues, for years ended December 31, 1939 to 1940, inclusive, twelve months ended June 30, 1941 and six months ended June 30, 1941 and December 31, 1940 .....   | 14537 | 4951 |
| 102, Michigan Gas Transmission Corporation — Operation and Maintenance Expense per books for the twelve months ended June 30, 1941 .....   | 14538 | 4953 |
| 103, Michigan Gas Transmission Corporation — Statement showing Gas Sales, Gas Transported, Gas used by Company, Line Losses and Gas Purchased for the years ended December 31, 1936 to 1940, inclusive, twelve months ended June 30, 1941 and December 31, 1940 .....  | 14540 | 4957 |
| 106, Registration Statement of Panhandle Eastern Pipe Line Company No. 2-4597, filed with the Securities & Exchange Commission November 18, 1940, Excerpts from .....  | 14548 | 4959 |



|  | Original Print |      |
|--|----------------|------|
| Cover and Pages 1 to 4   | 14548          | 4959 |
| Pages 45 and 46  | 14593          | 4969 |
| Pages 60 and 61  | 14608          | 4973 |
| Page S-1, Auditor's Certificate  | 14626          | 4977 |
| Pages S-3 to S-7, Balance Sheet as of December 31, 1940  | 14628          | 4979 |
| Pages S-17 to S-24, Intangible Assets, etc.  | 14642          | 4989 |
| 107, Report A-11488 of the Committee on Stock List, New York Stock Exchange, application for Listing of the first Mortgage and First Lien 3% Bonds, Series B due November 1, 1960 of Panhandle Eastern Pipe Line Company | 14651          | 5005 |
| Page 1   | 14651          | 5005 |
| 108, Letter of P. McDonald Biddison re Provision for Retirements, Depletion and Amortization for year 1938   | 14732          | 5006 |
| 109, Letter of P. McDonald Biddison re Provision for Retirements, Depletion and Amortization for year 1939   | 14733          | 5007 |
| 110, Letter of P. McDonald Biddison re Provision for Retirements, Depletion and Amortization for year 1940   | 14734          | 5008 |
| 111, Letter of P. McDonald Biddison re Provision for Retirements, Depletion and Amortization for year 1941   | 14735          | 5009 |
| 112, Table of Subsidiary Companies of Panhandle Eastern Pipe Line Company  | 14736          | 5010 |
| 131, Future Division of Production between Fields Considering a reasonable expected Load Increase  | 14768          | 5015 |
| 132, Future Division of Production between Fields without Consideration for increased Loads  | 14769          | 5017 |
| 137, Acres used in Determining Weighted Average Pressures of Texas Panhandle Field   | 14783          | 5018 |
| 138, Dry Gas Production and Pressure Decline — Texas Panhandle Field   | 14784          | 5019 |
| 139, Estimated Intake Pressures at Sneed Compressor Station  | 14785          | 5020 |
| 140, Estimated Average Working Pressures at Well head for "Group Areas" shown on Exhibit 46  | 14786          | 5021 |
| 141, Annual and Cumulative Production from Panhandle Field, Texas  | 14787          | 5023 |
| 142, Summary of Cost of Gas Produced and Purchased — basic Load for the years 1940-46, inclusive   | 14789          | 5026 |
| Schedule 1, Summary of Cost of Gas Produced and Purchased per M. C. F. by Fields — Basic Load for the years 1940 to 1946 inclusive   | 14790          | 5027 |
| Schedule 2, Cost of Gas Purchased per M. C. F. By Fields — Basic Load for the years 1940 to 1946 inclusive   | 14791          | 5027 |
| Schedule 3, Production Costs per M. C. F. Produced by Fields — Basic Load for the years 1940 to 1946 inclusive   | 14792          | 5031 |
| Schedule 4, Transportation Costs per M. C. F. Produced by Fields — Basic Load for the years 1940 to 1946 inclusive   | 14793          | 5033 |
| Schedule 5, Summary of Production and Transportation Costs per M. C. F. Produced by Fields — Basic Load for the years 1940 to 1946 inclusive   | 14794          | 5035 |

|  |       |      |
|--|-------|------|
| 143, Summary of Cost of Gas Produced and Purchased — Estimated Future Load for the years 1940 to 1946, inclusive .....   | 14795 | 5036 |
| Schedule 1, Summary of Cost of Gas Produced per M. C. F. by Fields — Estimated future Load for the years 1940 to 1946 inclusive .....  | 14796 | 5037 |
| Schedule 2, Cost of Gas Purchased per M. C. F. by Fields — Estimated Future Load for the years 1940 to 1946 inclusive .....  | 14797 | 5039 |
| Schedule 3, Production Costs per M. C. F. Produced by Fields — Estimated Future Load for the years 1940 to 1946 inclusive .....  | 14798 | 5041 |
| Schedule 4, Transportation Costs per M. C. F. Produced by Fields — Estimated Future Load for the years 1940 to 1946 inclusive .....  | 14799 | 5043 |
| Schedule 5, Summary of Production and Transportation Costs per M. C. F. Produced by Fields — Estimated Future Load for the years 1940 to 1946 inclusive .....  | 14800 | 5045 |
| 145, Panhandle Eastern Pipe Line Company — Compiled Registration Statement, No. 2-4919 filed with the Securities & Exchange Commission December 21, 1941, Excerpts from .....                        | 14824 | 5047 |
| Cover and following Page .....   | 14824 | 5047 |
| Pages 2 to 5 .....   | 14827 | 5051 |
| Pages 9 to 20 .....  | 14834 | 5059 |
| Page S-1; Auditor's Certificate .....  | 14924 | 5083 |
| Pages S-3 to S-9, Balance Sheet as of September 30, 1941 .....   | 14926 | 5085 |
| Pages S-18 to S-21, Reserves for Depreciation, etc. ....   | 14941 | 5099 |
| 147, Holding Company Act Release No. 3286, January 23, 1942 — Findings and Opinion of the Securities & Exchange Commission in the Matter of Columbia Gas and Electric Corporation, et al .....       | 15091 | 5107 |
| Order .....  | 15114 | 5140 |
| 149, Statement showing Investment by Owners and Long Term Creditors at June 30, 1941, Panhandle Eastern Pipe Line Company .....  | 15117 | 5143 |
| 150, Financial Data of Common Stock Issues of Electric and Gas Utilities, Years 1935 to 1940, inclusive .....  | 15118 | 5145 |
| 151, Earnings — Price Ratios of Common Stocks in Various Divisions of the Utility Industry .....   | 15122 | 5153 |
| 152, Estimate of Federal Income and Excess Profits Taxes, applying Rates levied in the Revenue Act of 1941 to Net Income for the Year ended June 30, 1941, Panhandle Eastern Pipe Line Company ..... | 15131 | 5171 |
| 153, Statement of Cost of Business Development Period from April 1, 1932 to June 30, 1941, Panhandle Eastern Pipe Line Company .....   | 15135 | 5177 |
| 157-A, Agreement between Panhandle Eastern Pipe Line Company and Columbia Gas and Electric Corporation and Columbia Oil and Gasoline Corporation dated January 31, 1936 (Exhibit H-6) .....          | 15227 | 5183 |
| 157-B, Agreement between Columbia Oil and Gasoline Corporation and Columbia Gas and Electric Corporation and   |       |      |

|  |       |      |
|--|-------|------|
| Panhandle Eastern Pipe Line Company and Henry T. Bush and C. Ray Phillips, receivers of Missouri-Kansas Pipe Line Company, dated as of June 1, 1936 (Exhibit H-9)  | 15237 | 5183 |
| Exhibit A, General Release   | 15251 | 5200 |
| Exhibit B, General Release to Receivers  | 15254 | 5202 |
| Exhibit C, Release of Claim  | 15256 | 5203 |
| 157-C, Bound Volume containing Offer dated January 31, 1936 of Columbia Gas & Electric Corporation and Columbia Oil and Gasoline Corporation to the Receivers of Missouri-Kansas Pipe Line Company, Extension dated March 5, 1936, Modification dated April 22, 1936 and Acceptance dated April 29, 1936 (Exhibit I-2) | 15258 | 5205 |
| Letters  | 15266 | 5220 |
| 158, Statement showing Gas Revenue from Indiana Gas Transmission Corporation and Michigan Gas Transmission Corporation from November 1931 to November 1941, inclusive, Panhandle Eastern Pipe Line Company   | 15280 | 5233 |
| 160, Purchase Agreement dated February 2, 1942 between Panhandle Eastern Pipe Line Company and Gloré, Forgan & Company and Kidder, Peabody & Company   | 15285 | 5241 |

## Index, Volume XII:

|  |       |      |
|--|-------|------|
| 161, Estimated Main Line Sales and Revenues, years 1941-1946, inclusive, Panhandle Eastern Pipe Line Company             | 15300 | 5271 |
| 162, Ten Years' Estimate (1941-1951) of Sales to Detroit and other Areas and Types of Sale                               | 15301 | 5273 |
| 163, Financial Statement of Michigan Gas Transmission Corporation for Period ended December 31, 1941                     | 15312 | 5295 |
| Balance Sheet as of December 31, 1941  | 15313 | 5297 |
| Assets   | 15314 | 5299 |
| Liabilities  | 15315 | 5301 |
| Income Statement   | 15317 | 5305 |
| Gas  | 15318 | 5307 |
| Non-Utility  | 15320 | 5311 |
| Other Income   | 15321 | 5313 |
| Other Deductions   | 15322 | 5315 |
| Surplus  | 15323 | 5317 |
| Gas Expenses   | 15335 | 5341 |
| Statistical Report   | 15339 | 5349 |
| Fixed Capital Expenditure, Report  | 15343 | 5357 |
| 164, Supplementary Statement of Financial Statement, Exhibit 163   | 15353 | 5377 |
| 165, Operating Budget of Michigan Gas Transmission Corporation for the year 1942, Excerpt from                           | 15355 | 5381 |
| Cover  | 15355 | 5381 |
| Pages 3 to 53  | 15357 | 5383 |
| Income Statement   | 15357 | 5383 |
| Gas  | 15358 | 5385 |
| Other Deductions   | 15359 | 5387 |
| 166, Statements showing Gas Purchase and Sales Transactions between Panhandle Eastern Pipe Line Company and Subsidiaries | 15373 | 5413 |

|  |       |      |
|--|-------|------|
| 167, Statement showing Checks of Michigan Consolidated Gas Company in favor of Michigan Gas Transmission Corporation drawn on National Bank of Detroit .....   | 15374 | 5415 |
| 169, Statement showing Percentage Increase or Decrease of Sales of Natural Gas of Michigan Gas Transmission Corporation for year 1937 to 1941, inclusive, to other affiliates .....  | 15376 | 5417 |
| 170, Certificate setting forth the Designation and certain of the Terms of the 5.60% cumulative Preferred Stock of Panhandle Eastern Pipe Line Company filed February 3, 1942, in Delaware .....   | 15378 | 5421 |
| 171, Certificate of Purchase and Retirement of Class A Preferred Stock of Panhandle Eastern Pipe Line Company filed February 14, 1942 in Delaware .....  | 15393 | 5434 |
| 172, Balance Sheets per Books Panhandle Eastern Pipe Line Company and Subsidiary Companies, as at each December 31, 1930 through 1941 .....  | 15397 | 5437 |
| 173, Income Statement per Books, Period from April 1, 1932 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....  | 15400 | 5443 |
| 174, Earned Surplus per Books, Period from Commencement of Operations to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15402 | 5447 |
| 175, Capital Surplus per Books, Period from September 1, 1930 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15404 | 5451 |
| 176, Gas Plant — Panhandle Eastern Pipe Line Company and Subsidiary Companies as at each December 31, 1930 through 1941 .....  | 15405 | 5453 |
| 177, Statement of Gas Produced, Period from April 1, 1932 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15407 | 5456 |
| 178, Statement of Gas Purchased from Period April 1, 1932 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15408 | 5457 |
| 179, Statement of Gas Revenue, Period from April 1, 1932 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....  | 15409 | 5459 |
| 180, Statement of Gas Revenue by States; Period from April 1, 1932 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....  | 15410 | 5461 |
| 181, Net Additions to Gas Plant per Books October 1, 1938 to December 31, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15411 | 5462 |
| 182, Comparative Statement of Depreciation, Depletion and Amortization of Operated leases authorized by Board of Directors and the amounts booked for the years 1937, 1938, 1940 and 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....  | 15412 | 5463 |
| 183, Statement showing Amount of Depreciation claimed in Federal Income Tax Returns and Settlement Basis for the nine months ended December 31, 1932 and the years 1933 to 1940, inclusive, Panhandle Eastern Pipe Line Company and Subsidiary Companies ..... | 15413 | 5463 |

|  |       |      |
|--|-------|------|
| 184, Comparative Statement of State, Local and Miscellaneous Federal Taxes Paid with the Amounts Accrued years 1936 to 1940, inclusive .....   | 15414 | 5464 |
| 185, Statement of Taxes Paid for the years 1936 through 1940, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15415 | 5465 |
| 186, Reconciliation Federal Income and Federal Excess Profits Taxes Paid with Amounts accrued years 1936 through 1940, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....  | 15416 | 5467 |
| 187, Panhandle Eastern Pipe Line Company and Subsidiary Companies' Statements and Copies of Contracts with Missouri Power and Light Company, Illinois Iowa Power Company, Caterpillar Tractor Company, Keystone Steel & Wire Company, R. Herschel Manufacturing Company and Peoria Malleable Castings Company, Excerpts from ..... | 15417 | 5469 |
| Page 1, Statement concerning Contract with Missouri Power and Light Company .....  | 15417 | 5469 |
| Page 2, Statement concerning Contract with Illinois Iowa Power Company .....   | 15430 | 5469 |
| Page 3, Statement concerning Contract with Caterpillar Tractor Company .....   | 15442 | 5470 |
| Page 4, Statement concerning Contract with Keystone Steel and Wire Company .....   | 15445 | 5471 |
| Page 5, Statement concerning Contract with R. Herschel Manufacturing Company .....   | 15449 | 5472 |
| Page 6, Statement concerning Contract with Peoria Malleable Castings Company .....   | 15452 | 5472 |
| 188, Panhandle Eastern Pipe Line Company Annual Report for the year 1940, Excerpts from .....  | 15458 | 5473 |
| Pages 3 to 6, Annual Report for 1940 .....   | 15458 | 5473 |
| 189, Panhandle Eastern Pipe Line Company Annual Report for the year 1941, Excerpts from .....  | 15472 | 5476 |
| Pages 3 to 8, Annual Report for 1941 .....   | 15472 | 5476 |
| 190, Comparative Statement of Operating and Maintenance Expenses year ended December 31, 1940 and 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....   | 15486 | 5483 |
| 191, Reconciliation of Net Income per books with Net Income per Federal Income Tax Return for the year 1939, Panhandle Eastern Pipe Line Company .....   | 15490 | 5489 |
| 192, Reconciliation of Net Income per books with Net Income per Federal Income Tax Return for the year 1940, Panhandle Eastern Pipe Line Company .....   | 15491 | 5491 |
| 193, Analysis of Reserve for Depreciation of Gas Plant, years ended December 31, 1932 through 1940 and six Months ended June 30, 1941, Panhandle Eastern Pipe Line Company and Subsidiary Companies .....  | 15492 | 5493 |
| 194, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Balance Sheet as of December 31, 1941 giving effect to financing Transactions consummated on February 6, 1942 and Acquisition on that Date of Capital Stock and Debt of Michigan Gas  |       |      |



|   |       |      |
|---|-------|------|
| Transmission Corporation, and Indiana Gas Distribution Corporation, and Purchase of Certain Property of Ohio Fuel Gas Company   | 15494 | 5499 |
| 195, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Income Account (Note A) for the year ended December 31, 1941   | 15499 | 5505 |
| 196, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Income Account (Note A) for the year ended December 31, 1941 as adjusted to give the Effect to Federal Income and Federal Excess Profits Tax Rates proposed in Recommendation of Secretary of Treasury Morgenthau on March 3, 1942 before House, Ways and Means Committee      | 15502 | 5509 |
| 197, Panhandle Eastern Pipe Line Company and Subsidiary Companies Balance Sheet per books February 28, 1942   | 15506 | 5513 |
| 198, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Income Account (Note A) for the twelve months ended February 28, 1942  | 15510 | 5519 |
| 199, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Income Account (Note A) for the twelve Months ended February 28, 1942 as adjusted to give effect to Federal Income and Federal Excess Profits Tax Rates proposed in Recommendation of Secretary of Treasury Morgenthau on March 3, 1942 before House, Ways and Means Committee | 15513 | 5523 |
| 200, Panhandle Eastern Pipe Line Company and Subsidiary Companies (including Michigan Gas Transmission Corporation and Indiana Gas Distribution Corporation) Comparative Statement of Gas Plant as of December 31, 1939, December 31, 1940, June 30, 1941, December 31, 1941 and February 28, 1942  | 15517 | 5527 |
| 201, Michigan Gas Transmission Corporation Gas Plant, as at each December 31, 1931 through 1941   | 15519 | 5531 |
| 202, Panhandle Eastern Pipe Line Company and Subsidiary Companies, including Michigan Gas Transmission Corporation and Indiana Gas Distribution Corporation, Statement of Estimated Federal Income and Excess Profits Taxes for the year 1941 (based on the Revenue Act of 1941)  | 15520 | 5533 |
| 203, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement of Operation and Maintenance Expense year 1941 (restated to include Michigan Gas Transmission Corporation and Indiana Gas Distribution Corporation for entire year)   | 15525 | 5541 |
| 204, Panhandle Eastern Pipe Line Company and Subsidiary Companies 1942 Construction and Retirement Budgets Summary by Companies   | 15529 | 5545 |
| 205, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement of Certain Estimated Construction Expenditures for the year 1942  | 15537 | 5556 |
| 208, Financial Statement of Panhandle Eastern Pipe Line Company and Subsidiary Companies for the period ended December 31, 1941   | 15783 | 5556 |

|   |       |      |
|---|-------|------|
| Financial Statement of Panhandle Eastern Pipe Line Company and Subsidiary Companies | 15783 | 5556 |
| Financial Statement of Illinois Natural Gas Company                                 | 15822 | 5600 |

## Index, Volume XIII.

|  |       |      |
|--|-------|------|
| Financial Statement of Panhandle Eastern Pipe Line Company   | 15838 | 5630 |
| Statistical Report of Panhandle Eastern Pipe Line Company and Subsidiary Companies   | 15868 | 5638 |
| 209, Letter of Panhandle Eastern Pipe Line Company to Detroit City Gas Company dated March 30, 1936 designating the Office to which the latter Company should make Payment for Gas delivered pursuant to Contract of August 31, 1935 | 15899 | 5748 |
| 210, Index Numbers of Wholesale Prices of Commodities by Groups (1926=100)   | 15901 | 5750 |
| 211, U.S. Department of Labor, Bureau of Labor Statistics Release of March 26, 1942 Wholesale Prices for the Week ended March 21, 1942   | 15902 | 5751 |
| 212, U. S. Department of Labor, Bureau of Labor Statistics, "Index Numbers of Wholesale Prices of All Commodities by Months, from 1890 to 1940 (1926=100)"   | 15904 | 5755 |
| 213, Table showing Average Hourly Earnings and Average Hours per Week per Wage Earner in twenty-five Manufacturing Industries from 1914 to 1942  | 15905 | 5767 |
| 214, Graph showing Average Hourly Earnings and Average actual Hours per Week per Worker in twenty-five Manufacturing Industries from 1914 to 1942  | 15912 | 5765 |
| 215, Table showing "Employment, Payrolls and Average Weekly Earnings in Representative New York State Factories, from 1914 to 1941 employment (Index Numbers with Average from 1925 to 1927 as 100)"                                 | 15913 | 5767 |
| 216, Indexes of Wholesale Prices and Cost of Living for certain months from 1913 to 1942 (1935-1939 = 100)   | 15914 | 5769 |
| 217, Graph showing Indexes of Wholesale Prices and Cost of Living from 1913 to 1941  | 15916 | 5771 |
| 218, Testimony of Mr. Joe D. Creveling before the Securities and Exchange Commission on November 29, 1941, in the Matter of Columbia Gas & Electric Corporation, et al., File No. 59-33, etc.  | 15917 | 5773 |
| 219, Panhandle Eastern Pipe Line Company Gas Sales and Purchase Contracts, Copy of Report by Bureau of Internal Revenue and Related Correspondence   | 15931 | 5783 |
| Exhibit A, Statement relating to Comparison of Values of Assets transferred to Panhandle Eastern Pipe Line Company by Missouri-Kansas Pipe Line Company, etc.  | 15937 | 5789 |
| Exhibit B, Schedule showing Sales of Various Units of Pipe Line Construction sold by Shippey, Maddin and Parish Gas Company, etc.  | 15938 | 5790 |
| Letter of Leith V. Watkins, Secretary-Controller, of Panhandle Eastern Pipe Line Company to N. F. Paxton, Assistant Secretary, Panhandle Eastern Pipe Line Company, November 7, 1941   | 15940 | 5792 |

XX41

|  |       |      |
|--|-------|------|
| Waiver of Restriction on Assessment and Collection of<br>Deficiency in Tax and Acceptance of Overassessment  | 15942 | 5794 |
| Letter of J. P. Wenchel, Chief Counsel, of Treasury De-<br>partment to Panhandle Eastern Pipe Line Company,<br>April 11, 1940  | 15944 | 5795 |
| Letter of Leith V. Watkins, Secretary-Controller, of<br>Panhandle Eastern Pipe Line Company to J. P.<br>Wenchel, Chief Counsel, for Treasury Department,<br>August 21, 1940  | 15947 | 5798 |
| Letter of J. P. Wenchel, Chief Counsel, of Treasury<br>Department to Panhandle Eastern Pipe Line Company,<br>October 3, 1940   | 15954 | 5811 |
| Letter of Leith V. Watkins, Secretary-Controller, of Pan-<br>handle Eastern Pipe Line Company to J. P. Wenchel,<br>Chief Counsel, for Treasury Department, February 24,<br>1941  | 15956 | 5812 |
| 220, Panhandle Eastern Pipe Line Company Excerpts from:<br>Minutes of Meetings of Board of Directors relating to<br>provisions for Depreciation, Depletion, and Amortization   | 15962 | 5818 |
| Minutes of February 24, 1942   | 15963 | 5818 |
| Minutes of January 25, 1941  | 15964 | 5818 |
| Minutes of December 14, 1939   | 15965 | 5819 |
| Minutes of December 22, 1937   | 15966 | 5820 |
| Minutes of February 13, 1936   | 15967 | 5820 |
| Minutes of February 15, 1933   | 15970 | 5821 |
| Minutes of May 5, 1932   | 15972 | 5830 |
| 221, Panhandle Eastern Pipe Line Company and Subsidiary<br>Companies Computation of working Capital Requirement  | 15975 | 5832 |
| 222, Panhandle Eastern Pipe Line Company and Subsidiary<br>Companies Computation of Average return Earned on<br>Net Investment for the period April 1, 1932 to December<br>31, 1941  | 15980 | 5835 |
| 222-A, Panhandle Eastern Pipe Line Company and Sub-<br>sidiary Companies Comparison of Average Return Earned<br>on Net Investment for the periods April 1, 1932 to Decem-<br>ber 31, 1936, and January 1, 1937 to December 31, 1941                            | 15982 | 5838 |
| 223, Panhandle Eastern Pipe Line Company and Subsidiary<br>Companies substitute Estimate (less economic) of Addi-<br>tional Capital Expenditures South and West of Liberal<br>Compressor Station required to meet Peak day Sales of<br>307,000 M. C. F., 1942  | 15983 | 5839 |
| 224, Panhandle Eastern Pipe Line Company and Subsidiary<br>Companies substitute Estimate (less economic) of Addi-<br>tional Capital Expenditures South and West of Liberal<br>Compressor Station required to meet Peak-day Sales of<br>338,000, M. C. F., 1942 | 15984 | 5840 |
| 225, Panhandle Eastern Pipe Line Company and Subsidiary<br>Companies Estimate of Operation and Maintenance Costs<br>South and West of Liberal Compressor Station, 307,000<br>M. C. F. Continuous Daily Sales Capacity Operation at<br>70% Capacity Factor      | 15985 | 5841 |
| 226, Panhandle Eastern Pipe Line Company and Subsidiary<br>Companies Estimate of Operation and Maintenance Costs   |       |      |



|  |       |      |
|--|-------|------|
| South and West of Liberal Compressor Stations, 307,000 M. C. F. Continuous Daily Sales Capacity Operation at 90% Capacity Factor.....  | 15987 | 5845 |
| 227, Panhandle Eastern Pipe Line Company and Subsidiary Companies Estimate of Operation and Maintenance Costs South and West of Liberal Compressor Station, 338,000 M. C. F. Continuous Daily Sales Capacity Operation at 70% Capacity Factor..... | 15989 | 5849 |
| 228, Panhandle Eastern Pipe Line Company and Subsidiary Companies Estimate of Operation and Maintenance Costs South and West of Liberal Compressor Station, 338,000 M. C. F. Continuous Daily Sales Capacity Operation at 90% Capacity Factor..... | 15991 | 5853 |
| 229, Capacity Study April 7, 1942 Continuous Daily Delivery Capacity — 307,000 M. C. F. ....   | 15993 | 5857 |
| 230, Capacity Study April 7, 1942 completely looped and economically powered Main Line System with Economic Production Transmission Expenditures.....  | 15998 | 5862 |
| 231, Capacity Study April 7, 1942 revised completely looped and economically powered Main Line System with less Economic Production Transmission Expenditures.....   | 16003 | 5867 |
| 232, Michigan Gas Transmission Corporation Computation of Average Return Earned on Net Investment for the period March 1, 1936 to December 31, 1941.....   | 16008 | 5873 |
| 233, Prospectus Panhandle Eastern Pipe Line Company \$10,000,000 First Mortgage and First Lien 3% Bonds, Series C, due January 1, 1962, and 150,000 shares 5.60% Cumulative Preferred Stock, Excerpts from.....                                    | 16009 | 5875 |
| Page 1.....  | 16009 | 5875 |
| Pages 3 to 8, Application of Proceeds, etc.....  | 16011 | 5877 |
| Pages 11 to 13, Certain Proposed Acquisitions, etc.....  | 16019 | 5889 |
| Page 16, Letter to Board of Directors, November 13, 1941.....  | 16024 | 5895 |
| Page 66, Notes to Balance Sheets.....  | 16075 | 5897 |
| Page 69, Notes to Income Account.....  | 16078 | 5899 |
| 234, Summary of Construction and Retirement Budget and Work Order Procedure.....   | 16095 | 5901 |
| 235, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement showing the Computation of Depreciation for Federal Income Tax Purposes for the year 1939 as claimed in Federal Income Returns.....                                    | 16097 | 5903 |
| 236, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement showing the Computation of Depreciation for Federal Income Tax Purposes for the year 1939 on the basis as settled with the Bureau of Internal Revenue.....             | 16098 | 5905 |
| 237, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement showing the Computation of Depreciation for Federal Income Tax Purposes for the year 1940 as claimed in Federal Income Tax Return.....                                 | 16099 | 5907 |
| 238, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement showing the Computation of Depreciation for Federal Income Tax purposes for the year 1940 on the basis as settled with the Bureau of Internal Revenue.....             | 16100 | 5909 |

|   |        |      |
|---|--------|------|
| 243, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement of Estimated Federal Income and Excess Profits Taxes for the 12 months ended February 28, 1942 (based on Revenue Act of 1941) . . . . .   | 16105  | 5911 |
| 244, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement of Budget Items included in Exhibit No. 205 . . . . .   | 16108  | 5917 |
| 245, Agreement between Columbia Gas & Electric Corporation and Panhandle Eastern Pipe Line Company dated February 5, 1942 . . . . .   | 16110  | 5921 |
| 246, Panhandle Eastern Pipe Line Company and Subsidiary Companies preliminary Determination of the second installment of Purchase Price to be paid to Columbia Gas & Electric Corporation, computed in accordance with Provisions (Paragraph C) of the Agreement between Columbia Gas and Electric Corporation and Panhandle Eastern Pipe Line Company dated February 6, 1942 . . . . . | 16123  | 5932 |
| 247, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement showing Certain Increased Costs not fully Present in Income Account (Exhibit 195 and 196) for the year 1941 . . . . .   | 16124  | 5933 |
| 248, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Income Account for the year ended December 31, 1941 . . . . .  | 16125  | 5935 |
| 249, Panhandle Eastern Pipe Line Company and Subsidiary Companies pro forma Consolidated Income Account for the year ended December 31, 1941 (Note A), as adjusted to give effect to Federal Income and Federal Excess Profits Tax Rates proposed in Recommendation of Secretary of Treasury Morgenthau on March 3, 1942 before House Ways and Means Committee . . . . .                | 16125  | 5936 |
| 250, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement of Rate Case Expenses in Connection with Federal Power Commission Consolidated Dockets G-200 and G-207 including actual cost to February 28, 1942 and Estimated Cost to complete . . . . .  | 16131  | 5942 |
| 250 A, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement of Rate Case Expenses in Connection with Federal Power Commission Consolidated Dockets G-200 and G-207 including actual Cost to February 28, 1942 and Estimated Cost to complete . . . . .  | 16131A | 5943 |
| 251, Panhandle Eastern Pipe Line Company and Subsidiary Companies Statement showing pro forma Consolidated Net Operating Revenue as adjusted for a full Year's Cost (Note A) as allocated between regulated and non regulated Sales for the year ended December 31, 1941 . . . . .  | 16132  | 5947 |
| 252, Panhandle Eastern Pipe Line Company and Subsidiary Companies Additional Information requested in re Exhibit No. 17 . . . . .   | 16138  | 5956 |
| 253, Study relative to Minimum Return Requirements of Panhandle Eastern Pipe Line Company (giving Effect to Property Acquisitions) prepared by Paul B. Coffman Chart No. 1, Condensed Actual and pro forma Balance Sheets of Panhandle Eastern Pipe Line Company as of December 31, 1941 . . . . .  | 16145  | 5961 |
|   | 16149  | 5967 |

# Index Volume XIV.

Original Print

|  |       |      |
|--|-------|------|
| Chart No. 2, Trend of Revenue and Expenses of Panhandle Eastern Pipe Line Company from 1932 to 1941 and pro forma                          | 16150 | 5969 |
| Chart No. 3, Percent Earned on Invested Capital of Panhandle based upon Net Gas Plant and Working Capital from 1932 to 1941                | 16151 | 5971 |
| Chart No. 4, Percent Earned on Invested Capital of Panhandle based upon Capital Structure from 1932 to 1941                                | 16152 | 5973 |
| Chart No. 5, Return to Common Stockholders of Panhandle Eastern Pipe Line Company from 1932 to 1941  | 16153 | 5975 |
| Chart No. 6, Percent Earned on Invested Capital of Panhandle pro forma for 12 Months ended February 28, 1942                               | 16154 | 5977 |
| Chart No. 7, Percent Earned on Invested Capital of Panhandle pro forma for 12 Months ended February 28, 1942                               | 16155 | 5979 |
| Chart No. 8, Working Capital of Panhandle Eastern Pipe Line Company is being Reinvested in Fixed Assets                                    | 16156 | 5981 |
| Chart No. 9, Effect of Sinking Fund and Maturity Provisions of Debt and Preferred Stock of Panhandle Eastern Pipe Line Company             | 16157 | 5983 |
| Chart No. 10, Investors' Appraisal of Overall Capital Risks in Various Divisions of the Utility Industry from 1937 to 1941                 | 16158 | 5985 |
| Chart No. 11, Investors' Appraisal of Overall Capital Risks 153 Stable Industrial Companies  | 16159 | 5987 |
| Chart No. 12, Panhandle Eastern Pipe Line Company Invested Capital as of February 28, 1942   | 16160 | 5989 |
| Chart No. 13, Cost of Financing Panhandle Eastern Pipe Line Company First Lien and First Mortgage Series "C" S. F. 3's due January 1, 1962 | 16161 | 5991 |
| Chart No. 14, Historical Costs of Debt Capital of Panhandle Eastern Pipe Line Company from 1930 to 1942                                    | 16162 | 5993 |
| Chart No. 15, Cost of Financing Panhandle Eastern Pipe Line Company 5.00% Preferred Stock  | 16163 | 5995 |
| Chart No. 16, Historical Costs of Preferred Stock Capital of Panhandle Eastern Pipe Line Company from 1936 to 1942                         | 16164 | 5997 |
| Chart No. 17, Record of Sales of Panhandle Eastern Pipe Line Company 5.50% Preferred Stock to Public from February 4 to March 5, 1942      | 16165 | 5999 |
| Chart No. 18, Price to Public of Panhandle Eastern Pipe Line Company 5.50% Preferred Stock reduced on April 2, 1942                        | 16166 | 6001 |
| Chart No. 19, Record of Sales of Panhandle Eastern Pipe Line Company 5.00% Preferred Stock to Public from April 2 to April 10, 1942        | 16167 | 6003 |
| Chart No. 20, Assumed Cost of Financing Panhandle Eastern Pipe Line Company 5.00% Preferred Stock  | 16168 | 6005 |
| Chart No. 21, Earnings - Price Ratios of Natural Gas Pipe Line Company Common Stocks from 1937 to 1941                                     | 16169 | 6007 |
| Chart No. 22, Average Earnings - Price Ratios of Natural Gas Pipe Line Company Common Stocks from 1937 to 1941                             | 16170 | 6009 |

|  |       |      |
|--|-------|------|
| Chart No. 23, Accepted Earnings — Price Ratio for Panhandle Eastern Pipe Line Co. Common Stock .....                             | 16171 | 6011 |
| Chart No. 24, Minimum Earnings required for Common Stock of Panhandle Eastern Pipe Line Company .....                            | 16172 | 6013 |
| Chart No. 25, Minimum Earnings required to Maintain Credit Position of Panhandle Eastern Pipe Line Company .....                 | 16173 | 6015 |
| Chart No. 26, Minimum Earnings required to Maintain Credit Position of Panhandle Eastern Pipe Line Company .....                 | 16174 | 6017 |
| Chart No. 27, Prime Money Rates Monthly from 1930 to March, 1942 .....   | 16175 | 6019 |
| Chart No. 28, Commercial Loan Rates Charged Customers by Banks in Principal Cities — Monthly, from 1930 to 1942 .....            | 16176 | 6021 |
| Chart No. 29, Yields on U. S. Government and High Grade Municipal Bonds Monthly, from 1930 to March, 1942 .....                  | 16177 | 6023 |
| Chart No. 30, Standard's Highest Grade (A1+) Corporate Bond Yields Monthly, from 1930 to March, 1942 .....                       | 16178 | 6025 |
| Chart No. 31, Standard's Corporate Bond Yields — by Quality Rating Monthly, from 1937 to March, 1942 .....                       | 16179 | 6027 |
| Chart No. 32, Standard's Public Utility Bond Yields — by Quality Rating Monthly, from 1937 to March, 1942 .....                  | 16180 | 6029 |
| Chart No. 33, Bonds, Debentures and Notes issued by Natural Gas Companies from 1936 to 1941 .....                                | 16181 | 6031 |
| Chart No. 34, Bonds and Debentures of Natural Gas Companies sold from January 1, 1936 to December 31, 1941 .....                 | 16182 | 6033 |
| Chart No. 35, Yields on New Security Issues of Natural Gas Companies according to Quality Rating, from 1936 to 1941 .....        | 16183 | 6035 |
| Chart No. 36, Ideal Earnings Coverage Ratios for High Grade (A Group) Natural Gas Company Bonds .....                            | 16184 | 6037 |
| Chart No. 37, Debt Coverage Ratios for El Paso Natural Gas Company Actual and Adjusted to a 6-1/2% Rate of Return .....          | 16185 | 6039 |
| Chart No. 38, Debt Coverage Ratios for Northern Natural Gas Company Actual and Adjusted to a 6-1/2% Rate of Return .....         | 16186 | 6041 |
| Chart No. 39, Debt Coverage Ratios for Southern Natural Gas Company Actual and Adjusted to a 6-1/2% Rate of Return .....         | 16187 | 6043 |
| Chart No. 40, Debt Coverage Ratios for Cities Service Gas Company Actual and Adjusted to a 6-1/2% Rate of Return .....           | 16188 | 6045 |
| Chart No. 41, Debt Coverage Ratios for Mississippi River Fuel Corporation Actual and Adjusted to a 6-1/2% Rate of Return .....   | 16189 | 6047 |
| Chart No. 42, Debt Coverage Ratios for Natural Gas Companies Adjusted to 6-1/2% Return on Net Property and Working Capital ..... | 16190 | 6049 |

|  |       |      |
|--|-------|------|
| Chart No. 43, Debt Coverage Ratios of Panhandle Eastern Pipe Line Company at Various Levels of Net Operating Revenue.....  | 16191 | 6051 |
| Chart No. 44, Debt Coverage Ratios of Panhandle Eastern Pipe Line Company at Various Levels of Net Operating Revenue.....  | 16192 | 6053 |
| Chart No. 45, Effect of Increased Gross Revenue and Taxes upon Panhandle's Net Operating Revenue.....  | 16193 | 6055 |
| Chart No. 46, Calculation to show Rate of Return Necessary to Produce \$5,382,677 -- Assuming Various Rate Bases.....  | 16194 | 6057 |
| Tables supporting Various Charts.....  | 16196 | 6061 |
| 254, Investors' Appraisal of the Risks of Capital in 153 Stable Industrial Companies for the years 1937 to 1941, inclusive, prepared by Paul B. Coffman.....   | 16242 | 6153 |
| Section I, Complete List of Industrial Companies whose Common Stocks were Listed on the New York Stock Exchange from January 1, 1932 to April 1, 1942, etc.....  | 16246 | 6161 |
| Section II, Summary showing Computation of "Investors' Appraisal of the Risks of Capital represented by 153 Stable Industrial Companies".....  | 16250 | 6169 |
| Section III, Working Papers showing the Computation of "Investors' Appraisal of the Risks of Capital" of each of the 153 Stable Industrial Companies.....  | 16254 | 6177 |
| <br><b>Index, Volume XV. and XVI.</b><br>  |       |      |
| Section IV, Working Papers showing the Computation of "Investors' Appraisal of the Risks of Capital" in the Natural Gas Industry as compared with other Divisions of the Utility Industry for the full Year 1941, etc.....   | 16530 | 6729 |
| 255, Letter of Panhandle Eastern Pipe Line Company dated April 11, 1942 to Mr. Park Chamberlain, and Tabulation of Comparative Statement of Demand Charges under Original and Supplemental Contracts, Panhandle Eastern Pipe Line Company and Michigan Consolidated Gas Company for Detroit..... | 16582 | 6833 |
| 256, Letter Agreement between Columbia Oil & Gasoline Corporation, National City Company and Missouri-Kansas Pipe Line Company, dated September 19, 1930 and Contract dated September 17, 1930.....  | 16585 | 6839 |
| 257, Panhandle Eastern Pipe Line Company and Subsidiary Companies Reconciliation of Net Income per books with Estimated Excess Profits Net Income for the year 1941.....   | 16595 | 6853 |
| 258, Holding Company Act Release No. 3415 dated April 1, 1942, Findings and Opinion of the Securities and Exchange Commission in the Matter of Columbia Gas & Electric Corporation, File Nos. 59-33, etc.....  | 16599 | 6856 |
| Order requiring Divestiture pursuant to Section 11 (b) (1) and Redistribution of Voting Power pursuant to Section 11 (b) (2).....  | 16606 | 6865 |
| 259, Weighted Average Earnings -- Price Ratios on Common Stocks 153 Stable Industrial Companies.....   | 16608 | 6867 |

|   |       |      |
|---|-------|------|
| 260, Panhandle Eastern Pipe Line Company Status of Proposed 1942 Construction Program, Production and Gathering System South and West of Liberal Station  | 16609 | 6868 |
| 261, Panhandle Eastern Pipe Line Company and Subsidiary Companies Main Line System Approximate Coincidental Maximum Day Sales during the Winter Periods of 1940-1941 and 1941-1942  | 16612 | 6871 |
| 262, Panhandle Eastern Pipe Line Company and its Subsidiary Companies Interruptible Customers Curtailment — January 4-12, 1942  | 16617 | 6881 |
| 263, Panhandle Eastern Pipe Line Company and Subsidiaries Allocation of Adjusted 1941 Costs between Regulated and Non-regulated Sales   | 16618 | 6883 |
| 264, Index of Gas Rate Schedule of Illinois Natural Gas Company, Michigan Gas Transmission Corporation and Panhandle Eastern Pipe Line Company  | 16621 | 6889 |
| Schedule 12, Gas Contract between Panhandle Eastern Pipe Line Company and Detroit City Gas Company, August 31, 1935   | 1     | 6889 |
| Supplement 2 of Schedule 12, Supplemental Gas Contract between Panhandle Eastern Pipe Line Company and Detroit City Gas Company, June 2, 1936   | 1     | 6920 |
| 266, Financial Statement of Indiana Gas Distribution Corporation for Period ended December 31, 1941   | 16643 | 6929 |
| 267, Panhandle Eastern Pipe Line Company and Subsidiary Companies Comparative Balance Sheets — per books, Comparative Earnings Summary — per books, Adjusted Earnings Summary and Gas Plant — per books as of March 1, 1941, and March 31, 1942 | 16676 | 6993 |
| Complaint of City of Detroit and County of Wayne, Complainants v. Panhandle Eastern Pipe Line Company and Michigan Gas Transmission Corporation, Defendants, filed February 28, 1941, Federal Power Commission, Docket No. G-200                | 16686 | 7002 |
| Separate Answer of Michigan Gas Transmission Corporation filed March 28, 1941 in Docket No. G-200   | 16693 | 7008 |
| Petition of Michigan Public Service Commission for Leave to intervene filed March 31, 1941 in Federal Power Commission, Docket No. G-200  | 16698 | 7011 |
| Separate Answer of Panhandle Eastern Pipe Line Company filed April 3, 1941 in Federal Power Commission, Docket No. G-200  | 16705 | 7015 |
| Order entered June 10, 1941 fixing date of Hearing in Federal Power Commission, Docket No. G-200  | 16715 | 7022 |
| Order entered June 10, 1941 permitting the Michigan Public Service Commission to intervene in Federal Power Commission, Docket No. G-200  | 16718 | 7024 |
| Petition of Panhandle Eastern Pipe Line Company filed June 26, 1941 for Continuance of Hearing in Docket No. G-200  | 16720 | 7025 |
| Concurring Petition of Michigan Gas Transmission Corporation filed July 3, 1941 for Continuance of Hearing in Docket No. G-200  | 16728 | 7030 |



|   |       |      |
|---|-------|------|
| Objection of City of Detroit and County of Wayne to Defendant's Petition for Continuance of Hearing filed July 3, 1941 in Docket No. G-200  | 16733 | 7032 |
| Federal Power Commission's Designation of Trial Examiner  | 16736 | 7034 |
| Order entered July 8, 1941 denying Petitions for Continuance of Hearing in Docket No. G-200   | 16737 | 7034 |
| Petition of Michigan Consolidated Gas Company for Leave to intervene filed July 10, 1941 in Docket No. G-200  | 16739 | 7035 |
| Petition of Intervention  | 16744 | 7038 |
| Order entered July 12, 1941 permitting Michigan Consolidated Gas Company to intervene in Docket No. G-200   | 16755 | 7046 |
| Answer of Michigan Gas Transmission Corporation to Petition of Intervenor, Michigan Consolidated Gas Company  | 16757 | 7047 |
| Answer of Panhandle Eastern Pipe Line Company to Petition of Michigan Consolidated Gas Company, Intervenor, filed August 18, 1941 in Docket No. G-200                                 | 16762 | 7051 |
| Motion to Dismiss filed by Panhandle Eastern Pipe Line Company on August 20, 1941 in Docket No. G-200   | 16771 | 7058 |
| Motion to Dismiss filed by Michigan Gas Transmission Corporation on August 21, 1941 in Docket No. G-200   | 16773 | 7059 |
| Order of Federal Power Commission denying Motions to Dismiss of Panhandle Eastern Pipe Line Company and Michigan Gas Transmission Corporation   | 16775 | 7060 |
| Order of Federal Power Commission entered May 22, 1941 instituting Investigation in Docket No. G-207  | 16776 | 7061 |
| Order of Federal Power Commission entered September 2, 1941 consolidating Proceedings for Purposes of Hearing, Dockets Nos. G-200 and G-207   | 16779 | 7064 |
| Petition of Panhandle Eastern Pipe Line Company filed February 4, 1942 for Continuance of Hearing   | 16799 | 7065 |
| Objection of City of Detroit and County of Wayne filed February 11, 1942 to petition for Continuance of Hearing   | 16800 | 7070 |
| Order of Federal Power Commission entered February 17, 1942 denying Petition for Continuance and Changing Place of Hearing in Dockets Nos. G-200 and G-207                            | 16811 | 7072 |
| Petition for Continuance of Hearing filed by Panhandle Eastern Pipe Line Company and Michigan Gas Transmission Corporation on February 28, 1942                                       | 16814 | 7073 |
| Exhibit A, Limitation Order L-31 to curtail Consumption of Natural Gas  | 16823 | 7079 |
| Exhibit A, Areas subject to Prohibitions contained in Paragraph (e) of Limitation Order L-31  | 16828 | 7084 |
| Order of Federal Power Commission entered March 26, 1942 enlarging Investigation and making Illinois Natural Gas Company a Party Respondent in Proceeding Designated Docket No. G-207 | 16834 | 7088 |
| Motion of Counsel for Federal Power Commission filed April 27, 1942 praying that the Federal Power Commission enter an immediate Order fixing just and reasonable Rates               | 16839 | 7091 |
| Motion filed by Michigan Consolidated Gas Company on April 27, 1942 praying that the Federal Power Commission enter an immediate Order reducing Rates                                 | 16849 | 7098 |

XXX 1

|   |       |      |
|---|-------|------|
| Motion filed by City of Detroit and County of Wayne on April 27, 1942 praying that the Federal Power Commission enter an immediate Order reducing Rates .....   | 16853 | 7100 |
| Amendment to Motion for Order Reducing Rates filed by Michigan Consolidated Gas Company on April 28, 1942 .....   | 16860 | 7104 |
| Statement relating to Excess Return for year 1941 and Reduction of Gross Revenues required to eliminate Excess Return .....   | 16865 | 7107 |
| Excess Return for year 1941, before Adjustment of Claim for Replacements .....  | 16866 | 7107 |
| Rate Base for year 1941 .....   | 16867 | 7109 |
| Income Statement — year 1941 .....  | 16868 | 7111 |
| Amortization of Investment .....  | 16871 | 7114 |
| Annual Accrual Rate for Amortization of Property as of June 30, 1941 .....  | 16872 | 7115 |
| Annual Accrual for Amortization of Property at June 30, 1941 .....  | 16873 | 7116 |
| Depletion .....   | 16874 | 7116 |
| Excess Return for year 1941 .....   | 16875 | 7117 |
| Rate Base for year 1941 .....   | 16876 | 7118 |
| Income Statement — year 1941 .....  | 16877 | 7119 |
| Adjustments to 1941 Income Statement for Changes in Operating Expenses not fully effective for Entire Calendar year 1941 .....  | 16878 | 7121 |
| Stipulation of Counsel for the various Parties and Federal Power Commission Counsel consenting to withdrawal of Federal Power Commission Counsel's Motion for Immediate Order reducing Rates filed May 11, 1942 .....                             | 16881 | 7123 |
| Motion of Counsel for Federal Power Commission for Immediate Order reducing Rates filed on May 11, 1942 .....   | 16882 | 7125 |
| Opinion Number 80 of Federal Power Commission, Memorandum as to Order of Federal Power Commission reducing Rates, September 23, 1942, Memorandum as to .....  | 16892 | 7133 |
| Petition of Panhandle Eastern Pipe Line Company, Michigan Gas Transmission Corporation and Illinois Natural Gas Company filed October 9, 1942 requesting an extension of time within which to file new Schedules of Rates and Charges .....       | 16934 | 7134 |
| Order of Federal Power Commission of October 12, 1942 granting Extensions of Time to Panhandle Eastern Pipe Line Company, Michigan Gas Transmission Corporation and Illinois Natural Gas Company to file new Schedules of Rates and Charges ..... | 16938 | 7137 |
| Petition of Panhandle Eastern Pipe Line Company, Michigan Gas Transmission Corporation and Illinois Natural Gas Company filed October 23, 1942 for stay of the Federal Power Commission's order of September 23, 1942 .....                       | 16940 | 7138 |
| Petition of Panhandle Eastern Pipe Line Company, Michigan Gas Transmission Corporation and Illinois Natural Gas Company filed October 23, 1942 requesting a rehearing in Dockets Nos. G-200 and G-207 .....                                       | 16944 | 7141 |
| Order of Federal Power Commission of October 30, 1942 denying Petitions for Rehearing and for Stay in Dockets Nos. G-200 and G-207 .....  | 16954 | 7150 |



|  | Original Print |      |
|--|----------------|------|
| Certificate to Transcript of Federal Power Commission  | 16955          | 7151 |
| Order of United States Circuit Court of Appeals directing Respondents to Show Cause why Petition for Stay of Rate Order should not be granted  | 16986          | 7179 |
| Order of United States Circuit Court of Appeals denying Petition for Stay of Operation of Rate Order without prejudice, etc.   | 16987          | 7180 |
| Order of United States Circuit Court of Appeals granting Stay pending further hearing of application therefor  | 16988          | 7181 |
| Order of United States Circuit Court of Appeals granting Stay of Order of Federal Power Commission dated September 23, 1942, requiring reduction in rates and charges for gas furnished by Petitioners, etc. | 16989          | 7182 |
| Order of United States Circuit Court of Appeals appointing John G. Hughes as Custodian of Funds to be impounded under provisions of Stay Order   | 16991          | 7184 |
| Order of United States Circuit Court of Appeals as to form of record to be printed and fixing time for filing designations therefor  | 16992          | 7185 |
| Order of United States Circuit Court of Appeals instructing Custodian as to manner of handling funds and securities in his possession  | 16993          | 7186 |
| Order of United States Circuit Court of Appeals authorizing Custodian to purchase certain securities as investments  | 16995          | 7187 |
| Order of United States Circuit Court of Appeals directing Petitioners to pay to Custodian certain sums to cover Bond premium, etc.   | 16997          | 7188 |
| Order of United States Circuit Court of Appeals requiring Custodian to set up Account No. 1 and Account No. 2, etc.  | 16999          | 7189 |
| Order of United States Circuit Court of Appeals authorizing Custodian to purchase certain securities, etc.   | 17001          | 7190 |
| Stipulation that coloring matter appearing on certain Exhibits may be omitted from copies inserted in printed record, etc.   | 17003          | 7191 |
| Appearances of Counsel for Petitioners   | 7193           | 7193 |
| Appearances of Counsel for Respondents   | 7195           | 7194 |
| Order of Submission  | 7199           | 7196 |
| Order for Resubmission of Case   | 7200           | 7196 |
| Order resetting case for argument  | 7201           | 7197 |
| Order of Resubmission  | 7202           | 7197 |
| Opinion, U. S. Circuit Court of Appeals  | 7203           | 7198 |
| Judgment, U. S. Circuit Court of Appeals   | 7226           | 7219 |
| Clerk's Certificate to Transcript  | 7228           | 7220 |
| Order allowing certiorari  | 7230           | 7221 |

A. They are all operating expenses.

Q. For the months shown? A. That is correct.

By Mr. Wheat:

Q. And do show a general trend upward in each individual item? A. That is correct.

Q. As covered by the tables or by the charts on the pages headed "Chart No. 1" and "Chart No. 2"?

A. That is correct.

Before leaving this, however, I would like to amplify my statement made in response to Mr. Littman's question.

It might have been possible that either in the month of July, 1938, or the month of September, 1941, that some of the employees for which both the man-hours and amounts are shown in the table for chart No. 1 performed some incidental construction work, in which event such cost would have been charged to construction.

In preparing these charts no effort was made to segregate such incidental construction costs from costs properly chargeable to operation.

[fol. 1478] The amounts shown here represent the total received by the payroll classification selected.

Mr. Littman: And you are not prepared, of course, at this time to say how many of these dollars found their way into operating expenses, and how many of them found their way into plant account.

The Witness: I am not.

By Mr. Wheat:

Q. I take it from your testimony, Mr. Watkins, that the vast proportion of the dollars represented on the table for charts Nos. 1 and 2 represent operating expenses?

A. Yes. The very nature of the work performed by the employees selected would indicate that.

Q. Can you say whether you included here all personal services?

[fol. 1479] A. No, I did not.

Q. What limitations were imposed?

A. The employees selected for this comparison represented the payroll classifications for which there had been at intervals over the period of the last four or five years specific general class raises or changes in payroll rates.

The remainder of our employees' bases of pay did not undergo such general classification.

[fol. 1480] By Mr. Wheat:

Q. Now, will you turn to chart No. 3, Mr. Watkins, and state what is shown on that chart, and also what is shown on the table for chart No. 3 at the back of Exhibit No. 73 for identification.

A. Chart No. 3 is a comparison of the cost of seamless steel pipe for 24-inch pipe represented by the first block in the chart, which shows the cost per ton, in dollars, for purchases made during the year 1940 and for the year 1941.

The respective amounts are \$44.59 per ton and \$64 per ton for the 24-inch pipe.

Q. The same figures appear for the 20-inch pipe, do they not? A. They do.

Q. There is a slight difference, isn't there, with respect to the 18-inch pipe?

A. In the case of the 18-inch pipe the cost for purchases, cost per ton of purchases for the year 1939 was \$45.08, while the cost per ton for purchases made during the year 1941 remained at \$64.

These prices are mill prices.

Q. And where were they obtained?

[fol. 1481] A. They are shown by the table for chart No. 3.

The source of the information for the year 1940 was from the company's gas plant record.

For the year 1941 from the company's Purchasing Department and representing the purchases consummated on October 22nd, 1941.

Q. Just last week? A. That is correct.

Q. I note you use the figure \$64 per ton for all three of these sizes. Is it a fact that in making the order last week that you mentioned the company received no separate quotation on individual sizes?

A. That is a fact.

Q. Was the \$64, then, a price averaged over these various sizes?

A. That is correct with respect to these particular sizes and other sizes of pipe purchased at the same time.

Q. What sizes did this price cover?

A. It covered sizes ranging from 24 inches down to 12.

Q. That is the price, is it, which this company is now preparing to pay under this pending order for the pipe in question?

A. It is.

[fol. 1482] By Mr. Littman:

Q. Mr. Watkins, when does the company expect to receive the deliveries of this pipe which you have shown on table 4, chart No. 3, for the year 1941?

A. It is the witness' information that deliveries for this pipe are to begin about the middle of November, this year.

Mr. Wheat: 1941?

The Witness: Yes, and to continue at regular intervals thereafter until the entire purchases have been delivered.

By Mr. Littman:

Q. Does this price include all of the discounts?

A. This is a net price at the mill.

Mr. Littman: Thank you.

Q. That price would not include the cash discount, would it?

A. It was furnished to the witness as the net price at the mill and the question of cash discount was not discussed except in a very general way, as a result of which the witness assumed there would be no cash discount.

Q. But you are not certain about that right at this time, are you? A. I am not.

[fol. 1483] By Mr. Wheat:

Q. Now, will you turn to chart No. 4 and to the table for chart No. 4, and state what is shown on those two pages of Exhibit 73.

A. Chart No. 4 gives a comparison of the cost of pipe couplings and valves for the sizes and periods shown in the two blocks in chart No. 4 and the information from which the charts were prepared is contained in the table for chart No. 4.

The first section of chart No. 4 compares the cost of 24-inch O. D. couplings purchased in 1939 and those purchased during the year 1941.

The respective costs were \$8.75 per coupling in 1939 and \$10.04 per coupling in 1941.

Both of these prices refer to the 24-inch O. D. couplings, the 24-inch O. D. sizes.

Q. What about the valves 24 by 20?

A. The 24 by 20 valves purchased during the year 1939 cost \$600 each while those purchased during the year 1941 cost \$690.

Q. As shown on the table for chart No. 4?

A. That is correct.

The information there was taken, in the lower section, from the company's gas plant records, while the data with respect to the 24-inch couplings came both from its [fol. 1484] plant records and from recent purchase records.

Chart No. 5 is a comparison of the cost of river clamps, stated in cost per ton.

The cost of river clamps purchased in 1940 was \$48.55, while those purchased in 1941 cost \$55.

Mr. Littman: May I inquire: Is the \$55 price per ton of these river clamps the price actually paid by the company, or is that for material yet on order?

The Witness: As shown by table for chart No. 5, the cost for the clamps purchased in 1940 and in 1941, both

came from the company's gas plant records and therefore it [represent] actual cost paid for clamps actually purchased.

Mr. Littman: And do they reflect all the discounts that were actually obtained by the company?

The Witness: They do.

Mr. Lee: Does the cost per ton vary with the quantity [fol. 1485] taken? I notice there is quite a difference: 400 tons in 1941 and 140 tons in 1940.

The Witness: The witness is not prepared to answer that question.

By Mr. Wheat:

Q. As a matter of fact, Mr. Watkins, in 1941 more river clamps were ordered, to-wit, 400, than were ordered in 1940, to-wit, 140; is that not true?

A. Yes, sir, that is correct.

Q. So that if any shaving of price were customary in connection with larger orders of river clamps you would have expected a lower price for the 1941 orders than for the 1940 orders, would you not?

A. That is correct. And it is the witness' view that whatever weighing is required to make the prices comparable in the two periods is in evidence in the data shown in the table for chart No. 5.

Chart No. 6 and the table for chart No. 6 contain a comparison of cost of master control valves for gas wells as to 7-inch and 8 $\frac{1}{2}$ -inch valves, and are stated in hundreds of dollars per unit.

The data from which chart No. 6 has been prepared is [fol. 1486] shown on the table for chart No. 6.

The comparison of the 7-inch valves purchased during the year 1938 and during 1941 show costs respectively of \$145 and \$152 per unit, while the comparison for the 8 $\frac{1}{2}$ -inch valves purchased during the year 1938 and the year 1941 show comparative costs, respectively, at \$230 and \$250 per unit.

Q. These are actual purchases made by the company, as shown by its records? A. That is correct.



Chart No. 7 and the table for chart No. 7 show a comparison of costs of pipeline construction of various sizes, loop lines constructed in several sections of the company's system.

The cost is stated in dollars per foot, and the information from which chart No. 7 was prepared is shown on the table for that chart.

[fol. 1487] This is a comparison of the cost of construction including, as shown, I believe, on the chart, the cost of ditching, stringing, welding, painting and laying of the pipe, and back-filling of the trench in which the pipe is laid on comparable projects, and does not include the cost of materials.

So that we have a comparison of the loop lines constructed in the counties of Ralls and Pike Counties, Missouri and Pike County, Illinois, as shown by the first two bars in chart No. 7, for the years 1940 and 1941 of 85 cents per foot for the year 1940 and \$1.29 per foot for 1941, and for the loop lines constructed in Christian, Macon, Moultrie and Douglas Counties, Illinois, for the same periods, \$1.13 per foot for the year 1940 and \$1.28 per foot for the year 1941.

And for the 24-inch loop lines constructed during the same years in Scott and Morgan Counties, Illinois, a cost per foot of pipe line construction in 1940 of \$1.13, which rose to \$1.40 in 1941.

And for the 20-inch loop lines in Douglas and Edgar Counties, Illinois, \$1.09 and \$1.27 per foot for the years 1940 and 1941, respectively.

The data from which chart No. 7 was prepared is taken from actual construction contracts completed during the year 1941 and from actual construction contracts entered [fol. 1488] into during the year 1941 but not yet completed.

Q. But they are actual costs being suffered by this company, are they not? A. They are, indeed.

Q. Now will you turn to chart No. 8 and to the table for chart No. 8, which deals with compressor station en-

gines, and state first what is shown on the charts and the tabulation, and then state whether you have shown anything here for the 1300 horsepower compressor engines?

A. Chart No. 8 and the table for chart No. 8 form the basis of a comparison of the cost of a 1,000 horsepower Cooper-Bessemer compressor station engine in the year 1940, purchased in the year 1940, and in 1941, and are stated in thousands of dollars per unit.

The engine purchased during 1940 cost \$43,200; the one purchased during the year 1941 cost \$46,500.

Q. You refer to the years 1940 and 1941, Mr. Watkins?

A. That is correct. The 600 horsepower Clark Brothers engine: One was purchased during the year 1939, which cost \$22,800, while the one purchased during the year 1941 cost \$24,600.

Q. All as shown on table for chart No. 8, taken from the company's gas plant records. A. That is correct.

Now, with respect to the 1,000 horsepower unit shown in [fol. 1489] the first block of this chart, the company has just recently entered an order for an additional unit for which the cost will be \$52,200.

The costs with respect to these compressor station engines are the costs at the factory.

Chart No. 8 does not give a comparison of 1300 horsepower units.

Q. Have you the data with you on which such a comparison could be given? A. Yes.

Q. Will you please state it.

A. Yes. On October 7, 1941, Panhandle Eastern Pipe Line Company ordered two 1300 horsepower Cooper-Bessemer compressor station engines, the cost of which will be \$64,000 at the factory.

The last recent purchase of a unit of this size occurred in the year 1940, and the cost at the factory of that unit was \$52,200.

Q. So had you added a chart for the 1300 horsepower unit it would have shown the same comparative trend upward in price that is shown for the compressor station engines you have included in Exhibit 73 for identification; is that true?

A. That is true.

[fol. 1490] Mr. Wheat, the witness believes he made an error in stating the cost of a thousand horsepower unit recently purchased.

Q. Please correct it if you did, sir.

A. The witness believes he stated that the unit cost \$52,200. The actual cost was \$57,000.

Mr. Littman: That is at the factory, isn't it?

The Witness: Yes.

Chart No. 9 consists of a comparison of the cost of automobiles.

The comparison covers Ford V-8 "85" coupes and Ford V-8 "85" one-half ton pickups, and Oldsmobile "6" Tudors.

Q. Those are types of automobiles which are in actual use in the plant of this company?

A. That is correct, and we selected these particular types because out of the entire purchases for the fleet as a [fol. 1491] whole these three types were those that seemed to be more representative of equalized freight costs.

The Ford V-8 "85" coupes, purchased during the year 1938, cost \$711 per unit, while those purchased during the year 1941 cost \$892.

Q. What did you find with respect to the Ford V-8 "85" one-half ton pickups?

A. There we found the units purchased during the year 1938 had cost \$682 while those purchased in 1941 cost \$731.

The Oldsmobile "6" Tudors purchased during the year 1938 cost \$1014 while those which were purchased during 1941 cost \$1173.

Q. Now, Mr. Watkins, considering the data which you have shown in Exhibit No. 73 for identification, would you say that the charts and the tabulations in that exhibit show that there has been a trend upward or downward in

the prices suffered by Panhandle Eastern Pipe Line Com-  
[fol. 1492] pany for the items covered?

A. I would state that the data most definitely shows there has been an upward trend.

Mr. Wheat: I think that concludes the direct testimony of this witness.

Mr. Littman: There has been a decided upward trend in the revenues, too, hasn't there, Mr. Watkins, or don't you propose to put in an exhibit on that?

Mr. Culton: You mean from MCF?

Mr. Littman: Well, both ways: MCF and in total.

The Witness: There has already been introduced through this witness Exhibit No. 49, which shows the total operating revenue of the company for the period from April 1, 1932, to December 31, 1941.

Mr. Littman: That is in Exhibit 49, isn't it?

The Witness: That is correct. The witness referred to that exhibit number.

\* \* \* \* \*

---

[fol. 1493] LOUIS FENN SPERRY, recalled as a witness on behalf of the respondent and duly sworn, testified further as follows:

By Mr. Wheat:

\* \* \* \* \*

Q. Have you since the last hearing prepared at my request, which was made pursuant to a request of the presiding Examiner, certain tabulations of data from your testimony on the subject of materials and supplies?

A. I have.

Q. And have those tables been prepared in a document of four pages, containing four separate tables showing the various figures which were used by you?

A. Yes. They include, however, figures on overall working capital as well as materials and supplies.

Q. Yes. In other words they are tabulations of data already contained in your testimony but put into usable form? A. That is right.

[fol. 1494] Q. May I ask you whether the document which I now show you is the tabulation to which you have just referred (handing)? A. That is it.

Trial Examiner: It will be marked for identification as Exhibit 74.

Q. Mr. Sperry, all of the figures contained on Exhibit 74 for identification are figures already contained in your testimony, are they not?

A. With one exception.

Q. Will you please state what that is?

A. The total on table 1 varies from the figures in the transcript of the testimony by a total of \$50.

Q. Yes? A. In the amount of \$374,000.

This discrepancy apparently arises out of a typographical error in the transcript.

The figures on this table are the correct ones.

---

[fol. 1496] RALPH E. DAVIS, a witness called on behalf of the respondent, and, having been first duly sworn, was examined and testified as follows:

#### Direct Examination.

By Mr. Culton:

Q. Your name is Ralph E. Davis? A. Yes, sir.

Q. And you are the President of Ralph E. Davis, Incorporated? A. Yes, sir.

Q. What is the business of that company, Mr. Davis?

A. Consulting engineers and geologists and particularly in the field of natural gas and petroleum work.

Q. How long have you been engaged in that class of work?

A. I have been engaged in engineering and geological work for 35 years.

• For something over 20 years practically all of my professional work has had to do with natural gas and petroleum.

Q. Were you employed about February of 1937 to prepare a valuation of the gas reserves of Panhandle Eastern Pipe Line Company located in the Panhandle and Hugoton Fields?

A. Yes. Some time prior, I believe, to February 1st I was employed.

Q. As of February 1 did you make a report of your [fol. 1497] valuation? A. Yes, sir.

Q. In that report did you give both your judgment of the then value of the reserves and the methods used by you in arriving at that conclusion? A. Yes, sir.

Q. I hand you a document entitled "The Panhandle Eastern Pipe Line Company—Natural Gas Supply—Value of Gas Reserves and Wells—February 1, 1937," is that a copy of the document which you delivered at that time (handing)? A. Yes, sir.

Trial Examiner: This document will be marked for identification as Exhibit 75.

By Mr. Culton:

Q. Mr. Davis, does the valuation contained in Exhibit 75 for identification represent your best judgment of February 1, 1937, of the then value of the gas reserves in the Hugoton and Panhandle Fields belonging to Panhandle Eastern Pipe Line Company and fully referred to in that exhibit? A. Yes, sir.

Q. And the bases set up in that exhibit for determining [fol. 1498] value are the bases which you used in arriving at your value?

A. That is correct. You referred to reserves a moment ago and now to value.

Q. Yes.

A. My answer is that the bases—

Q. You used the bases set out in here both in determining the amount of reserves you considered and the value of those reserves?

A. In both the determination of reserves, Mr. Culton, and the judgment regarding value, I feel that I have applied my general knowledge and experience as well as the particular detailed arithmetical calculations which are shown.



Mr. Culton: Yes. That's all.

By Mr. Littman:

Q. This estimate is what is commonly known as an estimate of the cost of reproducing the wells and leases of Panhandle Eastern Pipe Line Company, is it not?

A. No, I think not, sir.

Q. Well, what was the basis of your value of the leases, market value?

A. In a broad sense, I think so, yes. Yes, in a broad sense.

Q. And how did you generally place a value upon the wells?

A. I think if you have reviewed that report carefully [fol. 1499] you will find that I did not specifically place a value on the wells then owned.

Q. What I am trying to get at—I think perhaps Mr. Culton will understand.

Mr. Culton: You might just briefly give him—he has not had an opportunity yet to read this—you might just briefly give him the method used for determining value, the methods which were used.

The Witness: In the first place the Panhandle Eastern Pipe Line Company owned on the first of February, 1937, very substantial amounts of gas reserves, primarily leasehold lands in the Amarillo Field and in the Hugoton Field, and in each case the greater portion of the acreage thus controlled was in the area then regarded as a proven area.

I had been familiar with the Amarillo Field since the days of its first development and I had made many studies regarding gas reserves in that field, and the same would apply to Hugoton, and I brought those studies of reserves down to a very recent date as compared to February 1, 1937, and then I studied the character of the leasehold property of the Panhandle Eastern Pipe Line Company in each field to determine if their acreage was to be considered, let's say, average acreage, or would it be considered better than average, or less than average, and I came to a conclusion as to the proven reserves which I believed were [fol. 1500] recoverable and controlled by Panhandle Eastern in each field, in the Amarillo and the Hugoton Fields.

At the time of the study Panhandle Eastern were delivering to market slightly more than 20 billion cubic feet of gas annually.

The rate of delivery has been growing rather rapidly and there was very definite knowledge that in the very near future their deliveries to the markets would very substantially increase, and at that time we anticipated an early—that is, within a year or two or three—delivery of an annual amount of about 30 billion feet, and believed that that would gradually thereafter increase to some 40 billion cubic feet per year.

I had knowledge of the relative position of the company's controlled reserves through leasehold as compared to the reserves controlled through gas purchase contracts, and formed a judgment as to what quantity of gas I believed that the company would take from the Amarillo Field and from the Hugoton Field over a future period of 25 years.

I limited my estimate to 25 years for reasons which I considered good.

I had knowledge gained from a study of the company's operating experience as to the cost to them of producing gas. I knew that the cost of producing gas was greater per M cubic feet in years of low production and that the cost [fol. 1501] was substantially less in years of high production.

I looked forward to an increased delivery, and I estimated the future producing cost at an average overall of eight-tenths of a cent per thousand cubic feet, which figure did not include royalty, nor the cost of carrying undeveloped acreage nor did it include the cost of drilling new wells, nor did it include any cost of depreciation of old wells, nor depletion of gas lands.

It was eight-tenths of a cent per MCF for the so-called out-of-pocket operating cost.

I had fair knowledge gained through the years of what gas was worth in the Amarillo Field to those who were purchasing gas, and also in the Hugoton Field.

I knew the rate at which the company and others were making royalty settlements in each field.

I reached the conclusion that gas in the Amarillo Field would, during the 25-year period that I was anticipating, be worth at the well-head not less than four cents per MCF and in the Hugoton Field not less than four and one-half cents per MCF.

Now, there I had the basic elements for a so-called engineering appraisal in the estimate of the amount of gas which would be produced, the gross value of that gas at the well-head, the cost of bringing it to the well-head, and the time period during which the income would be derived. [fol. 1502] The frequently used method of applying a discount for deferment was applied by me, but instead of doing it on a certain percentage basis, such as eight per cent annual compound discount rate, such as that, I chose the shorter method of applying a 60 per cent discount to the expected net revenue.

In other words, the value on the basic data arrived at by me was 40 per cent of the expected net income and after due allowance for not only operating expense but the royalty payments to be made, payments on unoperated acreage, and the annual rentals, and the expected investment that would be required in additional wells.

Now, that sort of an appraisal—I call it an engineering appraisal—was presented in this report as reflecting fairly what my judgment led me to believe was the fair value of the acreage in each of these two fields which would contribute to the 25-year program.

The company held a substantial amount of acreage in addition to that which I have described, acreage that was so distant from its gathering system in each field, that I doubted it ever would be called upon for the purpose of delivering gas within the 25-years, and if the amount annually amounted to only about 40 billion feet, and so I gave that other acreage an acreage value—if it was undeveloped—it was isolated so far as this company's requirements were [fol. 1503] concerned—and I merely applied a value of so many dollars per acre to that.

Mr. Littman: Was that based on what a willing buyer would pay a willing seller, generally?

The Witness: Yes, sir.

Mr. Littman: I did not mean to interrupt you, sir. You may proceed, if you wish.

By Mr. Littman:

Q. It is clear to me from your explanation, and I wish you would correct me if I am wrong, that your estimate of the value of the leases and wells of the Panhandle Eastern Pipe Line Company in the amount of \$5,080,000 as of February 1, 1937, was not based upon original cost?

A. No, it was not, sir.

Q. It was not predicated upon any purported book cost?

A. Not at all, no.

Q. But was arrived at by the application of your judgment to the data that you described and in the manner in which you have just described?

A. That, and I think I should say that for a number of years past I was familiar with the requirements of the various pipe line companies for gas, from gas acreage.

I knew that this acreage had very substantial value, and [fol. 1504] I think judgment entered into it, although the figure \$5,080,000 is, as you see, an arithmetic answer.

Q. That is multiplying the recoverable reserves in MCF by the amount per MCF, which you arrived at in the manner you have described?

A. That and other certain factors came to me and gave me the answer \$5,080,000; and I adopted that as a fair representation of the value because it accorded with my judgment.

Q. In other words, generally speaking, it might be said this method reflects the value of the recoverable gas reserves in the ground as of February 1, 1937; is that generally correct?

A. That was my judgment in 1937, yes, sir.

Mr. Littman: I have no further questions at this time but I would like to have the record show that in the opinion of Commission counsel this exhibit falls in the same category as other exhibits which deal with reproduction costs, and our objection goes to the values or reproduction costs stated in the exhibit, and not to the witness' estimate of reserves.

I will ask you:

By Mr. Littman:

Q. You have in the exhibit 75 for identification an estimate of recoverable gas reserves, have you, Mr. Davis?

A. Yes, sir.

Mr. Littman: I would like to have it understood that [fol. 1505] this Exhibit 75 for identification is subject to our general objection to reproduction costs, but those parts of the exhibit which do not deal with reproduction costs are outside the orbit of the objection.

[fol. 1506] Q. Mr. Davis, referring to your "Summary and Conclusions" on page 18, in which you estimate the combined reserves of the Amarillo and Hugoton Fields at approximately 30 trillion cubic feet, do you mean by that recoverable reserves?

A. I do, sir.

Q. Now, as to the 30 trillion cubic feet which you have in mind, your figure of eight-tenths of a percent is the out-of-pocket cost of production per thousand cubic feet, which is applicable, I take it?

Mr. Littman: Eight-tenths of a cent and not percent.

The Witness: That is right, eight-tenths of a cent per MCF.

By Mr. Goodman:

Q. Yes.

A. That does not include, you understand, the drilling of wells in the figure for depreciation and depletion. It is the actual cost of operation during the year.

Q. Assuming that adequate wells will be built for the [fol. 1506] extraction?

A. That is right, and exclusive of royalties.

Q. Yes. Merely operating costs and the necessary structures and equipment is provided?

A. That is right.

Q. All right.

A. That figure, by the way, is supported by a table showing historical costs over a period of a few years.

Q. You mean the figure of eight-tenths of a percent?

A. Eight-tenths of a cent.

Q. Eight-tenths of a cent, I mean.

A. I think it is supported by certain data shown in the report on page 32.

Q. 32. Yes, I see.

A. Do you care for me to give you any explanation?

Q. No, I don't think so.

A. On the chart No. 1, I would like to point one thing out, Mr. Goodman, that down about the middle of the page, on the left-hand column, you see a caption "Total Cash Expense" about the middle of the page.

Q. I see that.

A. Do you see that, sir?

Q. Yes.

A. If you follow that to the right, the cash expense per thousand cubic feet of gas produced in 1932 was four [fol. 1507] and six-tenths cents, the next year it was three and three-tenths cents, the next year two and one-half cents, and the next year two and one-tenth cents, and in 1936 was 1.64 of a cent.

Now, the trend downward is due to the increase in the annual delivery.

That figure of the figures that I have just read to you include royalties, and the royalties amount to a sufficiently important amount here so that I think you can come to the figure that I use, eight-tenths of a cent, as a reasonable expectancy for the future, when you have in mind that they were delivering 20 billion a year when I made the estimate, and I was anticipating 30 to 40.

Q. Now, you limit your estimate to a period of 25 years, and will that 25 years, with the production you have in mind, dispose of the 30 trillion cubic feet that you have in mind?

A. No, indeed.

Q. It will not?

A. No, indeed, but there are many factors, Mr. Goodman, that are of uncertain import that might bring about a discontinuance of this business after a period of 20 or 25 or 30 years.



I wouldn't know how to estimate it any more closely, but I have thought that 25 years was a fair and sound period of time, being aware of studies made by people able, in [fol. 1508] my judgment, to carry through such undertakings as I am going to refer to:

I have been engaged in recent years to study the possibility of taking gas from these very fields in pipelines of 28 to 30 inch diameter, high pressure lines, lines that would be expected to deliver gas for industrial uses in the Chicago-Milwaukee district to compete with Illinois Coal, and most any type of service.

In other words, I am talking of gas that would sell there for maybe only 15 cents, possibly less.

If such things come to pass, 25 years might be too long a period. It might be.

I have thought it a reasonable estimate.

If something like that does not come to pass, 25 years may be too short a period.

Q. But you allowed a certain margin of safety here, didn't you?

A. I am describing to you right now why I allowed as much margin as I did allow, was because I had knowledge of what people were thinking about.

Q. Now I am referring again to the difference between the 30 trillion cubic feet of recoverable gas and that which you considered would be taken in 25 years.

A. 30 trillion cubic feet—in 1936 or 1937 they were taking approximately a little more than 600 billion feet per [fol. 1509] year, between 600 and 650, two-thirds of a trillion, so on the matter of just plain arithmetic, if they never took it out any faster, and continued, and were able to take it out that fast, you might have an indicated future of 45 years.

I wouldn't know that the takes would be limited to two-thirds of a trillion a year. That's the reason I couldn't, in my studies and in my advice to investors, and that by the way has been the principal responsibility that I have had in matters of this kind, I couldn't advise them that they could be assured of more than 25 years.

Q. Well, what output did you actually figure upon in terms of billions of cubic feet per year?

A. Are you thinking now of the Amarillo and Hugoton Fields?

I just stated to you that the withdrawal, which had been about 700, or a little more than 700 billion in one year—

Q. Well, it says 600 billion here.

A. There was a year in which there was about 700. I have the table.

Q. Gas is being produced in those two fields at a rate of approximately 600 billion cubic feet per year?

[fol. 1510] A. In 1935 the total withdrawal was 748 billion but by 1937 it was down to about 600—well, for 12 months ending July 31, 1936, the figure was 617 billion. In other words, it had dropped substantially for reasons we don't need to go into, maybe.

[fol. 1511] Mr. Goodman: Now, what output did you have in mind for the ensuing 25 years for the field as a whole?

The Witness: I had in mind they might produce anywhere from 600 billion to a trillion per year, something like that. I could not be too sure what industry might require. I recognize it might go to more than a trillion.

Mr. Goodman: So, did you have in mind a figure of the quantity of gas still recoverable which probably would be left in the field after 25 years?

The Witness: Well, I do not know how much they would take out in 25 years. I could only form a general idea of it. I saw they were taking something over 600 billion. I thought they might build that up to 800 billion or a trillion or more. I believed it would last 25 years. If I could have known how much they would have taken out in 25 years, I could give some notion of what the remainder would be, assuming that my estimate of 30 trillion cubic feet is a good estimate.

Mr. Goodman: I take it that you take 25 years to be a safe figure within which a quantity of 30 trillion feet recoverable reserves would be adequate?

The Witness: I do not exactly understand your wording there.

Mr. Goodman: I take it that you took the period of 25 years as a period of time in which recoverable reserves of 30 trillion cubic feet would be adequate?

Mr. Culton: Adequate for whom?

[fol. 1512] The Witness: I will say that I thought that 30 trillion feet in the fields, that is my estimate of what is there. I thought that would be adequate for 25 years, yes sir.

Mr. Goodman: Without any precise calculation as to what would be drawn from the fields other than a broad general estimate?

The Witness: That is right.

Mr. Littman: Mr. Davis, when you speak of the life of the reserves, are you referring to the reserves of Panhandle Eastern Pipe Line Company in the acreage owned by that company on February 1, 1937?

The Witness: To the extent that I placed a value on reserves, yes. I showed in this report that Panhandle Eastern controlled acreage reserves were vastly greater than the amount I estimated that they would require in 25 years, but I did not pretend to foresee to what extent increased demand in the field might make inroads into the reserve of the field as a whole, and, consequently, in the reserves of Panhandle.

Mr. Littman: Well, let me read a paragraph on Page 18 of your Exhibit 75, and ask you a question with respect to that.

"After giving consideration to all of the known factors affecting the future supply and probable demand, it is our judgment that Panhandle Eastern Pipe Line Company will be able to obtain, at reasonable costs, supplies of natural gas sufficient for its market requirements for a period of [fol. 1513] not less than 25 years."

Were you referring, there, to the reserves owned by Panhandle Eastern?

The Witness: Yes.

Mr. Littman: You were not, of course, referring to the reserves not in the possession of Panhandle Eastern, were you?

The Witness: I was referring to the reserves controlled through, first, leasehold ownership, and, second, gas purchase contracts.

Mr. Littman: That is right.

The Witness: None other.

Mr. Littman: That is what I understood it to be. You stated that you are a geologist, did you not, Mr. Davis?

The Witness: I do not know whether I said so or not.

Mr. Littman: I understood that you were.

The Witness: I have played the game.

Mr. Littman: Are you what is known as a petroleum engineer?

The Witness: I do not know. I have played the game.

Mr. Littman: What degree do you have, maybe we can get at it in that way?

The Witness: I have a degree of Bachelor of Science in General Engineering.

Mr. Littman: You would call yourself, certainly, a practical geologist, wouldn't you?

The Witness: I think I get along all right.

[fol. 1514] Mr. Littman: Well, I think you have, too.

The Witness: I do not mean to be funny.

Mr. Littman: Neither do I.

The Witness: I studied geology in school. In fact, I majored in geology. I studied basic sciences, like chemistry, mathematics and physics and, eventually, I got into the petroleum and natural gas engineering work and there is nothing in it that a fellow cannot follow if he has got general knowledge of arithmetic and a little chemistry and a little physics. You do not have to have a degree, so far as I know.

Mr. Littman: You have been working at it for a long time, as you say?

The Witness: That is right.

Mr. Littman: Mr. Davis, you are quite familiar, are you not, with the Hugoton field?

The Witness: I have been familiar with it for a long time, at least.

Mr. Littman: Is it correct to say, or is it not correct to say, that the Hugoton-field is today yet undefined?

The Witness: We must know what we mean when we make that statement. The meaning that would occur to my mind is that the limits of the field are not as yet defined.

Mr. Littman: That is what I mean, by dry holes, is that correct, Mr. Davis?

The Witness: Generally, that is correct, yes, sir.

[fol. 1515] Mr. Littman: Is it not only true, generally, but also pretty specifically, that is to say, how many dry holes have been drilled in the Hugoton field?

The Witness: Well, there have been a few.

Mr. Littman: A few?

The Witness: But let me point out to you that the limit of the field, particularly a field of the Hugoton type may be indicated by the size of wells. You know the Hugoton field is located on a very broad, gently dipping monocline and it is not, so far as we know, limited on the west by any structural feature.

We believe it to be limited on the west by a thinning out of the porous formation, just more shale and less sand, the gradual disappearance of the porous bed within which the gas occurs in commercial quantities in the central part of the field, so, as you go to the west and drill wells, instead of getting a 10-million foot well or eight or six or five, you get a one-million foot well.

To me, that indicates an approach to the edge of the field.

Mr. Littman: How about the south? Is it defined in the south?

The Witness: No, I think it is pretty wide open to the south.

Mr. Littman: Have you finished your answer?

The Witness: Yes.

Mr. Littman: In fact, so wide open that today no one [fol. 1516] knows where the Panhandle field ends and the Hugoton field begins, is that generally correct?

The Witness: I might bring to your attention this proposition that in the Hugoton field the production is obtained from the Permian Dolomite. That is one of the three formations that produces at Amarillo. In the Amarillo field, the production is from the Gray Lime of the Upper Pennsylvanian, it is from the Granite Wash lying deeper and it is also from the Permian Dolomite. At the Hugoton field the production is practically entirely and, so far as I know, it is entirely, from the Permian Dolomite.

Now, at the northwestern end of the Amarillo field, the gas is a sour gas, whereas, in the southerly end of the Hugoton field, as we now know the Hugoton field, the gas is a sweet gas and it is not just a certainty that these two things can come together and be a single field.

Here we have a peculiar field, a great body of sour gas in the northwest corner of Amarillo, and that is where the Hugoton field should be expected to connect, if it connects at all, and yet there is one field, one field producing in one formation, and the other producing in three. It is not at all certain.

Mr. Littman: And it is as yet undefined?

The Witness: It is undefined in that area.

Mr. Littman: And what about the east of the Hugoton field?

The Witness: The Hugoton field on the east, the wells [fol. 1517] that have been drilled out in the east are small wells. They are so small that I doubt, really, that they



are commercial wells. Personally, I would not recommend the selection of acreage east of the line which, on my map or, at any rate, on my 1941 map, indicates the easterly edge of the field.

I think beyond that, gas may be found, in commercial amounts, may or may not, but generally the wells in that eastern border are small wells, indicating to me probably edging out of the field, although it is not defined by dry holes.

Mr. Littman: It is your testimony, I take it, that the Hugoton field is generally yet undefined by dry holes?

The Witness: I say the Hugoton field is not as yet definitely defined. It is not as yet definitely defined by dry holes but I think it is approximately defined to the west, northwest, and to the east by these small wells, which I personally do not consider sufficiently large, under present conditions, to be commercial.

To my mind, the field is pretty well defined by the type of edge wells we are getting, although they are not dry holes, except in certain instances they are dry.

Mr. Littman: How about the north? I am speaking of the north of the Hugoton field?

The Witness: Up there, north of what we have been calling the Hugoton field, sometimes, not too long ago some one brought in an oil well. I have not paid much attention to that. I rather think it indicates the north [fol. 1518] limit of the Hugoton field.

Mr. Littman: One oil well?

The Witness: That is all I recall.

Mr. Littman: You do not know anything about that well?

The Witness: I was told that it was a fair well.

Mr. Littman: But you have not examined the well log or the situation up there?

The Witness: That is right.

Mr. Littman: Or made any investigation with respect to that one oil well in the north, have you?

The Witness: No, I have not.

Trial Examiner: We will take a five-minute recess.

(Whereupon, at this point, a short recess was taken, after which the hearing was resumed.)

Mr. Littman: Mr. Davis, in looking through your Exhibit 75 rather hurriedly, I cannot find the abandonment pressure that you used in determining your estimate of reserves in the Texas Panhandle and Hugoton field. Could you tell us what abandonment pressure you used in arriving at this?

The Witness: That report that you have as of February 1, 1937, followed very shortly a report that was made as of November 1, 1936, and I think I gave some explanation and some data in the 1936 report that was not again repeated, and I believe that in that 1936 report, at least, I stated that it was quite impossible to anticipate at what average pressure the field would finally be abandoned as a [fol. 1519] major producer of gas, that I thought that possibly 30 pounds per square inch at the well head would be a reasonable figure to use.

Now, that was my view back in 1937 and I believe I did use that figure, and then I made some adjustment from what would have been a theoretical answer based upon Boyle's Law to take account of the then recognized fact that a substantial amount of the acreage in the Amarillo field was what we term "marginal acreage", acreage that is not as good as the best commercial acreage.

I made adjustment for abandonment at 30 pounds, for marginal acreage, being less than average in quality and for deviation from Boyle's Law and, after making those adjustments, reached the conclusion as stated in the report regarding the over-all gas reserves.

Mr. Littman: Are those adjustments shown in your Exhibit 75?

The Witness: Not in detail.

Mr. Littman: Could you state approximately what was the percent of the reserves ascertained by the application of the rock pressure decline method with the use of a 30-

pound rock pressure abandonment pressure? Did you discount for the other factors that you mentioned?

The Witness: You will note, or I will say to you, that as of July, 1936, the average pressure in the Amarillo field [fol. 1520] was determined to be approximately 355 pounds. That is the nearest date to February 1, 1937, that we had at the date of my study.

The pressures of wells in the Amarillo field are taken by the Railroad Commission of Texas once a year, usually in July and August, and those pressures are plotted on a map. Lines of equal pressure are drawn thereon, and the pressure of the field is determined, weighting the areas of certain pressure according to their size.

In other words, if I have 100 thousand acres with an average pressure of 300 pounds and I have 200 thousand acres with an average pressure of 400 pounds, then the 400-pound figure gets twice the weight that the 300-pound figure gets, because it applies to twice as large an area.

The average pressure, as determined in July, 1936, was 355 pounds. The original pressure in the field had been 430 pounds, so you will note a decline in pressure of 75 pounds down to July, 1936.

Considering the total amount of gas that had been withdrawn from the field, including the best estimate that we have of gas wasted, the figures that are adopted by practically everyone who deals with this problem in the Amarillo field indicated, in 1937, that the production of gas per pound drop in pressure of gas in the field had been at an average rate of about  $68\frac{1}{2}$  billion feet for each pound drop.

Now, if I applied that figure to the remaining pounds, I [fol. 1521] would have an estimate,  $68\frac{1}{2}$  multiplied by 355, but instead of doing that, I applied  $68\frac{1}{2}$  multiplied by the difference between 355 less 30, or 325, and you will see that 30 pounds is a little less than 10 percent of 355 pounds, so there was a nine-percent, we will say, reduction in the estimate to take account of the assumed abandonment pressure.

Now, to allow for the deviation from Boyle's Law I recall that the allowance for that was approximately 5 per-

cent and, in the same direction, a reduction. The allowance for marginal acreage was also about 5 percent and in the same direction, so I had a total reduction of about 19 percent to account for the three things I have mentioned.

Mr. Littman: Was that also true of Hugoton field, as well as the Texas Panhandle field?

The Witness: No, sir.

Mr. Littman: Can you give us the method used in that field?

The Witness: The Hugoton field was developed so much more recently than the Panhandle field, so little gas had been withdrawn from Hugoton by February, 1937, it seems to me that not more than 100 billion feet had been taken from field, and that was such a modest amount, as compared to the totals we are dealing with, you could not use it as a basis for making a reserve estimate.

Mr. Littman: You could not use [what] as a basis, you mean Boyle's Law, the application of Boyle's law?

[fol. 1522] The Witness: You could not use what we call the pressure decline and related production method. The decline in pressure in the Hugoton field had affected only a limited part of the area, 5 percent of the Hugoton field, 5 percent I would say offhand, and, certainly, not more than 10 percent, most of the field had shown no decline in pressure, a limited part, something like 5 or 10 percent, showed a very modest decline in pressure and with only 100 billion feet of gas withdrawn and with only something like 10 or 15 or, on the outside, 20 pounds of decline and in a very small part of the area, it was too small a base—it would be like trying to determine the distance from here to that building (indicating), using as a base line here something like a quarter of an inch.

If we had three feet to use as a base line and surveying instruments, we could get the distance over there within an inch or so. With a quarter-inch, we would be pretty good if we got within a rod, or two or three rods.

Mr. Littman: So you did not use any abandonment pressures in the Hugoton field for that reason?

The Witness: I would not say I used no abandonment pressure in that field, but what I did in the Hugoton field was this:

We had certain studies that had been made of materials taken from the wells, samples of the producing formation had been sent to laboratories for the determination of porosity. We knew something about the thickness of the producing zone. We knew that it was the Permian dolomite [fol. 1523-4] which is also productive down at Amarillo.

We had some line on what that formation should produce from one acre, based upon the thickness of the porous zone and the approximate porosity of it, the pressure.

In other words, a volumetric calculation was made.

Mr. Littman: Isn't that called the porosity method?

The Witness: That is frequently called the porosity method and the very first studies that I made of that, my figures were too high. I thought the gas per acre would be more than I now believe, and the reason for that error was this, that the sample sent to the laboratory, the laboratory man just tested the best part of the sample and I did not know that.

I thought he tested at random, but as I say, he selected the parts he wanted to test, and I got my figure too high, but I happened to do that back in a year when it did not make any difference because the acreage I was dealing with was the only acreage that was producing at the time, and it has already produced more gas than I gave it per acre because it has had the surrounding field from which to draw, but coming right down to what you want, I think that the Hugoton field is now practically proven throughout an area of more than two million acres.

I think that it will produce over all an average of not less than  $7\frac{1}{2}$  million cubic feet per acre. That indicates a future ultimate production of at least 15 trillion feet.

[fol. 1525] Mr. Littman: If you were making an estimate of the gas reserves in the Hugoton field today, would you use the rock pressure decline method in preference to the porosity method?



The Witness: We do not have enough data yet. It is still, in my judgment, a very dangerous thing to use because the gas production has come first from a limited part of the field.

It is very difficult to determine how much replenishment there has been into that area from the outside during the ten years of gas withdrawal.

I would do this: I would prepare a pressure contour map of the field. I would make a study, using the pressure decline method, and then I would also make a study based on the volumetric method, and I would take into account, particularly, the indicated better than average gas conditions in the south end of the field as compared to the central part where gas had been produced.

I would study these several different things and bring them together. That is what I really do, I call it  $7\frac{1}{2}$  million per acre today, and that is not any pure volumetric method nor pressure decline method.

It is partly a judgment method. It is partly based on what I know the Permian will do in Amarillo, where it has been productive a long time.

Mr. Littman: Is that  $7\frac{1}{2}$  million per acre the recoverable reserves, that is, after discounting for abandonment pres- [fol. 1526] sures and the other discount items that you mentioned a few moments ago?

Mr. Culton: I would suggest, when you said  $7\frac{1}{2}$  million, that is M. c. f.

Mr. Littman: Yes,  $7\frac{1}{2}$  million cubic feet.

The Witness: Yes, that is right. That is what I mean, recoverable.

Mr. Littman: Your answer to my question as to the discount factor was yes?

The Witness: Yes.

Mr. Littman: In making estimates of reserves in the Panhandle field, which method would you prefer, the rock pressure decline method or the porosity method?



The Witness: There are objections to each method. There are difficulties in the application of each of the two methods. The difficulty in applying the porosity method is that no man in the world knows much of anything about what the porosity is.

Mr. Littman: You cannot tell what it is, in the Panhandle field, can you?

The Witness: Nobody has ever taken a core of even a single well so far as I know, and had the porosity determined throughout the pay zone from top to bottom, but even if he had done that and had done it for 25 wells, he still would have only 25 samples in a field 125 miles long, so he would not have anything, anyway.

He would have another one of these little things one [fol. 1527] quarter inch long to measure the Washington Monument with. We know pretty well how thick the producing zone is in the Amarillo field from data from more than a thousand wells. I think the figure is 71 1/2 feet average thickness, but nobody knows whether the porosity is 20, 30 or 35 percent.

The boys who use 20, think 20 is a good figure to use. I think 30 would be a better figure, myself. The reason I think 30 would be better is because it must be 30 if the answer we have by the other method is right.

Mr. Littman: By "the other method", you mean the rock pressure decline method?

The Witness: That is right.

Now, the rock pressure decline method has this uncertainty about it, that the pressure in this great field of almost 11 1/2 million acres has not gone down uniformly throughout the whole field. The pressure has gone down more in the area of greater than average production and less in the marginal area, so when I find the average pressure in 1940 to be 320 pounds, and if I made my study without any correction for the marginal acreage.

I would be getting too high an answer. I am satisfied that I would be too high if I did that and, therefore, I must make some correction.

Well; the best that we know about the field is that there is about 450 thousand acres, in round figures, of marginal acreage out of 1,467,000, which leaves a little more than a [fol. 1528] million acres of what we call the best commercial acreage.

That acreage has produced most of the gas that has come from the field.

I have made many attempts to solve that problem. Without going into detail with you, I believe that the correction factor that I apply takes care of the fact that the marginal acreage will be less productive.

Mr. Littman: And that is the correction factor which you mentioned a few moments ago, namely, of 30 pounds abandonment pressure—

The Witness: (Interposing) Not the 30 pounds, that has nothing to do with it.

Mr. Littman: Plus the two 5 percent factors?

The Witness: Just one of those 5-percent factors.

Mr. Littman: Which one is that?

The Witness: Not the one that has anything to do with the deviation from Boyle's Law, but the one that has to do with marginal acreage.

Let me point out this: If I had [being] doing this problem back in 1930, when the decline in pressure had been very, very little, one percent correction for marginal acreage would have been sufficient.

But, by the time you get down to January or February of 1937, I tell you 5 percent at that date was a sufficient correction. Now, in 1941, it would require a higher correction.

[fol. 1529] Finally, at the best, 1955, 1960, when you get down there, we are going to be making still greater corrections. You can see that the first year there would not be any correction and, in the last year, it would be a maximum.

Mr. Littman: What would you say would be the proper correction factor to apply as of, say, June, 1941?

The Witness: June, 1941, for the west field, I think around 7 or 8 percent, 7 percent probably, for the west

field; and for the east field, pretty close to 20 percent; for the combined field about 10 percent.

Mr. Littman: Which field does Panhandle Eastern have its acreage in?

The Witness: In the west field.

Mr. Littman: And what figure would you give as the estimated original recoverable reserves per acre for the Texas Panhandle field, that is, the west field, which would be comparable to the  $7\frac{1}{2}$  million cubic feet per acre that you gave a few moments ago for the Hugoton field?

The Witness: Well, it would be 18 or 19 million feet per acre.

Mr. Littman: That figure represents the recoverable reserves?

The Witness: Yes. I always mean that unless I specify otherwise.

Mr. Littman: I believe there is one question that you [fo: 1530] have not answered for me, and that is what abandonment pressure would you use today in the Hugoton field?

The Witness: Today?

Mr. Littman: Yes, in estimating reserves—well, let's say as of June 30, 1941.

The Witness: Well, I think I would not go below 50 pounds. I do not know that I would go that low.

You see, in Amarillo, the formation is, so much more permeable. You get so much more gas from a well.

Mr. Littman: I believe I asked you about the Hugoton field, sir.

The Witness: Yes. I am saying, though, that at Amarillo you get so much more gas from the wells when the pressure is 340 pounds than you get at Hugoton. I believe, when you get down to, say, 50 pounds in each case, I think we will be getting several times as much gas per well in Amarillo than in Hugoton; so, if the pressure is properly estimated at somewhere between 30 and 50 pounds

at Amarillo, and that is my present judgment, then the abandonment pressure at Hugoton will be somewhere between 50 and 100 pounds.

Mr. Littman: Can you estimate it any closer than that?

The Witness: If I could, Joe Crevelling would probably be willing to pay me \$50 more for the job.

Mr. Littman: There have not been any wells abandoned in the Hugoton field on which to predicate an actual figure?

[fol. 1531] The Witness: Even if there had been, that would not mean anything. These wells that are abandoned early in the history of a field, they are usually abandoned for a specific cause.

Mr. Littman: I take it, it is pretty much of a guess what the proper abandonment pressure should be?

The Witness: It is going to depend, in a large manner, on the economics of the thing, 20, 30 or 25 years from now, the economics, what is gas worth. That is going to be a big factor.

Mr. Littman: I take it the specific answer to my question is yes, it is pretty much of a guess?

The Witness: That is right.

[fol. 1535] Mr. Goodman: Can you tell us the application of your testimony concerning reserves and your exhibit relating to conditions of 1937 to the present time?

The Witness: Well, there has been a great deal of water gone over the dam since 1937. There is a very, very different business picture in front of Panhandle Eastern today as compared to 1937.

Their present deliveries of gas are of the order of 60 billion feet per year. Back in 1937, I was talking about 30 to 40 and, in forming a judgment of the value of their gas lands, gas reserves in 1937, I was relating that to the amount of gas that they could market from their acreage

over the 25 years I had in mind, and a study of my report will show that I used up, in that 25 years, only a very modest part of their total reserve.

I come to 1941, I see a company delivering 60, with the prospect that they will build that up to 80. I do not know what they will build it to, but I know from this recent study of mine that they have in the two fields reserves that justify this greatly increased delivery and, based upon the conditions of 1941, the reserves of gas land are worth at least twice what they were in 1937.

Mr. Goodman: How about quantity of reserves in 1941?

The Witness: They have plenty of reserves in 1941.

Mr. Goodman: Could you give me a more definite figure?

The Witness: I will see what I have right here. Here [fol. 1537] is a study as of September 30, 1940, and the total proven acreage under leasehold control in the two fields combined was 235,594 acres, and the gas reserves controlled through gas purchase contracts in the two fields covered 56,868 acres.

. . . . .

---

[fol. 1588] J. D. CREVELING, a witness called on behalf of Panhandle Eastern Pipe Line Company, being first duly sworn, was examined and testified as follows:

#### Direct Examination.

By Mr. Culton:

Q. Your name is J. D. Creveling, and you are President of the Panhandle Eastern Pipe Line Company.

A. That is correct.

Q. How many years' experience have you had in the gas business?

[fol. 1589] A. I did my first work in connection with the natural gas industry in 1904 and have worked, at least a part of every year, from that year to date in such industry.

Q. Detail the types of experience you have had.

A. Well, in 1904, strange as it may seem, I started to work for a natural gas company as a carpenter. In those days, we used much wood in the construction of structures,

especially compressor stations, and the first work I did was on a compressor station which was one of the first large gas-engine driven compressor stations built in the United States, near my home town of Mount Vernon, Ohio.

Thereafter, I worked for gas companies continuously in the summer time in positions of responsibility, at all times having charge of construction or operations and, in the early days, I was going to school in the winter.

In 1913, I went to Oklahoma in charge of the construction of what is now known as the Tallant Compressor station in Osage County. I came back to the Ohio territory after that work was concluded and have, since about 1915, worked continuously for natural gas companies, principally in the States of Ohio, West Virginia, Pennsylvania and some in Kentucky until 1918, at which time I returned to Oklahoma in charge of all construction work for the Cities Service Company in the mid-continent having to do with natural gas and natural gasoline activities.

I remained in Oklahoma—

[fol. 1590] The middle of 1919, July 1, I think is the exact date, I was moved to the New York office of Cities Service Company as head of natural gas activities of that company for all of its properties operating in at least fifteen different States and in the Province of Ontario.

I remained with that company in that capacity until the middle of 1936 and during that time, I did some consulting work, principally for the La Habra Gasoline Company of Los Angeles, California, the Monongahela-West Penn. Power Company at Fairmont, West Virginia, and the J. G. White Engineering Company of New York City, at which time, that is, the middle of 1936, I resigned to accept the Presidency of the Panhandle Eastern Pipe Line Company, which position I have held to date.

Q. Have you, for some years, been connected with any trade association?

A. Yes. In 1923—you know, these dates go back a long ways—I was President of the Natural Gas Association of America, at which time I introduced a famous geologist, Mr. Ralph E. Davis, to the industry.



I have been a member of various important committees having to do with industry matters for many years and, [fol. 1591] for many years, I represented the industry on the Advisory Council of the Bureau of Mines at \$100 per year and I have not received any compensation yet. I have been, for many years, and am now, natural gas representative on the Board of Directors of the American Petroleum Institute.

Q. I believe you stated you came with the Panhandle Eastern Pipe Line Company as President in 1936. Do you recall what time of the year it was, about?

A. It was in June, 1936.

Q. At the time you came with the company, did you have a general knowledge of the company and its markets?

A. It was part of my duties, in the position occupied immediately previously, to be well acquainted with activities of the industry throughout the entire country. I did, therefore, have what I consider was a fair general knowledge of the Panhandle Eastern Pipe Line Company and its then existing and potential markets.

Q. After you became President, did you take steps to further familiarize yourself with the company?

A. I did, naturally, the first one of which was a careful investigation and appraisal of the personnel. This, under any circumstances, would be an important first step. It was an especially important first step in this particular case because of the fact that I was taking the place of a man who had built up this personnel and who, because of [fol. 1592] certain legal conditions, could no longer be a principal officer of the company and he was still a member of the organization.

It was only natural, therefore, that I assure myself, not only of the quality of the personnel, but also that the personnel was one whose loyalty was first with the company, rather than with an individual. I made such a check and found what I considered the nucleus of a very fine organization, and found the spirit universally all that could be expected.

[fol. 1593] Q. Mr. Creveling, I assume that one matter to which you probably gave some attention was gas reserves.

Before discussing those, I would like for you to give me a definition of what you consider to be an integrated gas company.

[fol. 1594] A. Of course, an integrated gas company, which we are not, would be one having an adequate reserve, transmission facilities of sufficient capacity, and markets all in balance. We do not have any retail markets.

Q. In other words, you own no distribution facilities?

A. That is right.

Q. What is the type of company represented by Panhandle Eastern Pipe Line Company?

A. Production and transmission, its business being largely wholesale.

Q. Irrespective of the meaning which might be given the same word under other circumstances, I would like to have you give us your definition of operative acreage, from the standpoint of the owner of a pipe line company?

A. Our conception of operative acreage is that acreage essential to the successful conduct of its business over a period of years commensurate with its ability or with its financial requirements and the requirements of the markets which it serves.

Q. What is the necessity for a company of this kind to have acreage of this character?

A. This acreage, of course, might be compared, if you please, to a coal pile. We cannot expect to sell our commodity to prospective customers on a day to day basis. We must be able to approach them on a basis that will warrant them changing from whatever fuel they are then using and incurring the cost incident for a long enough [fol. 1595] time to, in their judgment, enable them to economically justify the change.

A company such as this also, and by "such as this" I mean one that has been and still is rapidly growing, must attract new capital. The size of our reserves must be adequate, from that standpoint, to satisfy any prospective capital, especially that which is taken into the company in the form of debt, must be of an adequacy beyond the maturity of that debt.

Q. Did you, when you first went with the company, check into its reserves for the purpose of determining the adequacy?

A. Amongst other things that I am not, I am not a geologist. I appreciated the fact, however, that the question of reserves was an important item. I was of the general opinion that the reserves up to that time, in view of the markets that had been attached, were adequate.

I was not certain of the amount of those reserves, however, or their adequacy looking into a reasonably expected future. To that end, I employed Mr. Ralph E. Davis to make an estimate of the reserves and a valuation thereof, both in the Hugoton field and the Amarillo areas, and the results of that investigation are a part of the records of this company. That was done late in 1936 and early in 1937.

Q. Since that time, has the company made any additions [for 1596] to, or changes in, its reserves and, if so, why and what changes?

A. We have. In the Amarillo field, we have acquired very little additional acreage under lease. We have, however, acquired considerable acreage under purchase contracts for the life of commercial production on those leases.

We acquired that reserve largely under purchase contract for various reasons; one of the important ones being that the location of these reserves was such, in reference to our own reserves, that it better blocked those reserves and made for a more economic production of these reserves over their life.

In the Hugoton field, a slightly different condition existed. There were parts of that field that were not, at that time, proven. As a matter of fact, they were considered pretty much wildcat in nature.

Mr. Littman: You are speaking of the year 1936, Mr. Creveling?

The Witness: That is correct, and immediately thereafter.

We were able to encourage, through purchase contracts, at prices delivered into our main gas transmission system in the field, potential reserves, and by that I mean reserves if development disclosed the fact that they existed under

the particular acreage, of gas under purchase contracts that we considered very favorable and which, in addition to that, would prove our own acreage in the general vicinity covered under these purchase contracts.

[fol. 1597] By Mr. Culton:

Q. In other words, the drilling on those gas contract acres would help to prove the existence of gas under your own leases in the area?

A. That is exactly the case, and I refer principally now to the north end of the Hugoton field, principally Grant County, in which county under three contracts, we had the call on any gas reserves discovered under a minimum of 30 sections of land and a maximum of 90.

Q. Did you adopt any policy with respect to the closeness of wells, the spaces between wells or the acreage surrounding wells?

A. Very definitely, yes.

Q. What was that policy?

A. We were very definitely of the opinion that economic development and production of gas in fields such as the Amarillo and Hugoton areas could not be carried out with more than one well per section of land.

We therefore, adopted that as a company policy, that we would not enter into a purchase contract where one well did not hold at least 640 acres. Neither would we drill a well where we had not been able to unitize a block into one of at least 640 acres.

Q. Why didn't you drill all of these tracts immediately upon acquiring them?

[fol. 1598] A. Because of the economies involved, which economies, of course, in its last analysis, goes finally to the public. To carry a section of land under lease would probably cost at an average, \$320 per year.

Q. As delay rental?

A. As delay rental, which, of course, would be an expense item. To drill one well on that section and connect it to our main transmission lines would cost an average of possibly \$25,000. It is our belief that it is more uneconomic to pay a delay rental of—

Q. (Interposing) More economic or uneconomic?

A. (Continuing)—\$320 a year, rather than have \$25,000 additional investment substantially in advance of

when the production or the reserve rather, developed through that investment would be necessary to adequately serve our markets.

Q. You used the words, "more uneconomic." You meant, "more economic", did you not?

A. That is correct.

Q. You just misspoke the words.

Why not wait until you need that gas before acquiring the lease?

A. That would be a very fine situation, if it could be done, but competitive situations have been, and are now, such that, in that field, you could not acquire on a favorable basis, currently, leases for development as you could [fol. 1599] at the time these leases were acquired.

Q. In other words, other companies are buying leases and producing from the same reservoir?

A. That is correct, and other lines are being talked about and projected out of the area; none of which, I hope, are built.

Q. Is there any way by which you can prevent their construction?

A. By no way that I know of, unless we come to the Federal Power Commission and represent they are about to compete with our markets and have them agree with us.

Q. Mr. Creveling, has the company adopted any, I suppose we should call it "new order" in the business of producing wells?

A. We have possibly developed something that could easily be so classified. By that, I refer to the acidization of wells.

About the time I came with the company, while acidization had been in practice in connection with oil fields in certain areas, it had not been developed in connection with gas fields.

In these two fields, the porous space in a producing horizon is partially filled with lime which, of course, cuts down the number of openings through which gas may come into the well bore, restricting the rate of flow from the wells.

As I said, acidization was in a very embryonic state, so [fol. 1600] far as natural gas wells were concerned. A



few wells had been acidized with approximately 1,000 gallons with some improvement but probably not enough to justify it unless there was something more that could be done.

We have developed this process further—I say “we”; we developed it in cooperation with two companies who had had considerable experience in acidization of oil wells—to the point where we have now acidized some 54 of our wells and have increased the original open flow from slightly over 200 million to over 750 million.

Now, I want to be understood on that. We have not increased the reserve under that acreage by that process, but we have developed a more economic method of removing that reserve from its underground home.

Q. Why is it more economic?

A. Because of the fact that the original cost of a well in those areas might reasonably be taken at \$20,000. It costs from \$1,200 to \$1,500, possibly an average of \$1,400, to completely acidize a well with possibly a thousand gallons of diluted hydrochloric acid.

Q. A thousand or ten thousand gallons?

A. Ten thousand gallons. Did I say a thousand?

Q. Yes.

A. Ten thousand gallons of hydrochloric acid.

Q. The old method was a thousand?

[fol. 1601] A. The old method was about a thousand.

You can readily see, if it is profitable to spend \$20,000 on the original well cost, obtaining a certain open flow thereby, it most certainly is within the limits of good economy to spend another \$1,400 to increase that open flow by more than 200 percent.

This also goes beyond the original open flow of the wells in that it materially reduces the cost of taking care of those wells. There is practically no cleaning out work to be done on a well that is acidized as soon as it is drilled and it is our policy now to acidize the wells as we drill them.

Q. Since you have been with the company, has it adopted any policy with respect to consolidations and exchanges of leases?



A. We have. As I indicated to you, we do not drill a well on a tract that does not, in consolidation with other tracts, total at least 640 acres. Many of the leases in those areas, of course, are not 640 acres in size. We have, therefore, through trades with other companies, consolidations of various sorts and, through the acquisition of other tracts, consolidated before starting the drilling of a well, and do not start it until the consolidation is completed.

Q. Mr. Creveling, in your judgment, is your present reserve adequate for the markets which the company now anticipates?

[fol. 1602] A. If that question had been asked me a year ago, I would have been inclined to say yes. In view of the demands, however, being presently put upon us, the growth of those demands being much more rapid than we had previously estimated them, it is my judgment that we could well add to our acreage in favorable locations from time to time and our land and lease department, in cooperation with our geological department, is carrying out such a program on a modest scale at this time.

Q. Passing now to consideration of the transmission facilities of the company, what was the extent of the line which existed when you came with the company in 1936?

A. It had two main gathering lines, into the Liberal Compressor Station.

Q. One from the Panhandle field and one from the Hugoton field?

A. One from the Panhandle field and one from the Hugoton area and, from that point, had a transmission line of 24, 22 and 20 inch pipe diameter, running in a generally northeasterly direction, as has already been described in detail in this case, to a point on the Indiana-Illinois State line near Dana. It had installed, at that time, three compressor stations having a total installed horsepower of 14,000.

Q. What was the sales capacity of the line at that time?

A. The sales capacity of the line at that time was approximately 80 million cubic feet per day.

[fol. 1603] Q. Did you know anything definite as to the condition of the line?

A. I had some general thoughts about the line that caused me to feel that certain checks should be made to determine the exact quality of our transmission facilities.

before our load built up to a point where they would be worked substantially to their capacity.

Q. What steps did you take to ascertain the condition of the line?

A. In acquainting myself with the affairs of the corporation, from time to time I went over the construction contracts and specifications for the original line. I found also that there had been used in the construction of this line, many different makes of pipe, all the way from lap weld to electric weld and seamless.

I knew that this pipe was acquired at a time when the demands on the pipe mills of the country were at a peak and that the line had been procured from various mills in any amounts that those mills could furnish above their other sales.

I was not certain as to the quality of this line and, in order to satisfy myself, I employed Mr. P. McDonald-Biddison, whom I had known for many years, and with whom I had been associated for a part of that time and who had a reputation as one of the best natural gas engineers in the country, to make a valuation and appraisal of this [fol. 1604] entire system for me. This was done late in 1937 and completed in 1938.

Q. He was not a regular employee of the company, was he?

A. No, he was an outside consulting engineer.

Q. Did Mr. Biddison make a report to you, a copy of which has been offered in evidence? A. He did.

Q. Did you ascertain, when you came with the company, that there was a restriction in some portion of the line?

A. When I came with the company, one of the first things the operating men told me was the fact that the apparent capacity of the west end of the system was below that which it should be by the application of the then usually accepted flow formula.

This had not been previously an important item because of the fact that there was adequate capacity for the then existing markets in spite of these restrictions.

However, I put two engineers on the job of finding out what this was, because we were in the process of connecting other large markets, and we were approaching the point when we would need the maximum reasonable capacity of the line, with the result that the type of restriction was discovered and removed, thereby increasing the flow efficiency of those sections of the line from the low seventies to the low nineties (in percentage).

[fol. 1605] Mr. Littman: When did that occur, Mr. Creveling?

The Witness: That occurred in 1938.

By Mr. Culton:

Q. What was found to be the restriction?

A. There was a very thin scum formed on the inside walls of the line that I could describe, in lay language, as resembling, in general appearance, the roughness of sandpaper. The binder holding this sand in position apparently had come from a mineral seal oil from our gasoline plant and, possibly, some lubricating oil that had come through the compressors.

Q. How was that substance removed?

A. It was removed by running through the line, a section at a time, and by that I mean between gate valves—we have a gate valve on our main line about every eight miles—a device developed by our engineers on which a patent has been obtained.

Q. Was that the “go-devil” that has been referred to?

A. Yes, commonly called the “go-devil.”

Q. (Interposing) In a practical manner, what happened?

A. This go-devil is designed so that, by the pressure of the gas back of it, it is moved through the line in a rotary motion. It has on it wire brushes which, if you please, loosen up the material on the inside walls of the line, and it is so designed that the concentric ring between [fol. 1606] the back part of the go-devil and the inside wall of the pipe can be varied to such an extent that enough gas will pass ahead of the go-devil to carry with it the loosened particles.

Q. During the period about which you have been talking, was there any pressure test made of the line?

A. There was. As I indicated, upon reading the contracts covering the original construction of the line and the specifications for material, I found that although the generally accepted maximum working pressure of the line was 450 pounds, these contracts and specifications indicated the fact that we probably had a line that could be safely worked at 500 pounds maximum working pressure.

To establish the reasonableness or unreasonableness of that position, during the year 1938, when our demands were not building up so rapidly, we tested our entire line, section by section.

To a pressure of 550 pounds, which pressure we figured would be sufficiently high to permit of a working pressure of 500 pounds maximum; provided those tests were, in our judgment, satisfactory.

Q. What was the result of the test?

A. Out of over 150,000 joints of pipe, we had 7 leaky joints, of which only three were complete failures, and out of some 25,000 couplers used on this line, we had only 3 failures, a performance that I, in my judgment, think [fol. 1607] would not be excelled by a line built today giving full consideration to any advances in the art of manufacture or construction from the date this line was laid to the present time.

Q. I assume that these bad joints and bad couplers were replaced?

A. They were removed, replaced with other material of the same size, and the line was again tested to 550 pounds.

Q. Has it been operated at a 500-pound pressure at numerous times since then? A. It has.

Q. During this same period, did you make any discovery with reference to anything else relating to the flow capacity of the line?

A. Yes, in cleaning out the line and making the tests of flow capacity before and after, we found a performance that we had felt certain existed, that is, that the flow capacity of large pipe lines under normal conditions was somewhat in excess of that indicated by the use of the

then generally used flow formula known as the Weymouth Formula.

We found, by actual experience and tests, that lines of this size, especially this line, perform more nearly in accordance with the flow formula in which Nikaradse's friction factor was used.

[fol. 1608] Q. From the standpoint of efficiency, what was the result of your discovery that the line would stand 500 pounds operating pressure and that this new formula was applicable?

A. Of course, we did not buy any additional capacity by developing the fact that the formula we had previously used in figuring capacity was too low or gave us too low a capacity.

However, it did give us some assurance of our ability to deliver an additional amount of gas than that we had previously considered possible.

With the raising of the pressure from 450 to 500 pounds, the tests and repairs resulting from which cost us approximately \$50,000, we did buy a material increase in capacity. The total of those two items was approximately 30 million cubic feet, of which some 9 or 10 million was due to the formula and at least 20 million to the raising of the maximum pressure from 450 to 500 pounds.

In other words, we furnished, for the use of our customers, 20 million of additional capacity for \$50,000 when, up to that day, capacity per million had cost possibly \$250,000 or, saying it another way, for \$50,000 we established a capacity that to have laid additional pipe lines working at 450 pounds, would have cost us between 4 and 5 million dollars.

[fol. 1609] Q. Has there been much of a turn-over in the employees of the company?

A. There has been practically no turn-over. As a matter of fact, possibly it has been even too small.

Q. In other words, practically all of the employees have been with the company a number of years?

A. That is correct.

Q. What construction was in progress when you came with the company in 1936?

A. The Detroit City Gas Company contract had been negotiated and executed prior to the time I came with the company. Construction work—

Q. (Interposing) Right there, did that contract require greater capacity than the 80 million cubic feet daily which the line at that time had?

A. The Detroit contract is a requirement contract by one of the terms of which our maximum obligation, as the [fol. 1610] original contract existed, was 90 million cubic feet per day.

As I was about to say, this Detroit contract was about to become operative and construction work, looking toward the delivery of gas to the Detroit area, was in progress. So far as the Panhandle Eastern Pipe Line Company is concerned, it was adding to its transmission facilities 8 additional compressor stations which stations had an installed horsepower of 29,300.

Q. All right. Was there any pipe line construction going on at that time?

A. At that time, as I recall it, Panhandle Eastern Pipe Line Company was not making any addition to its main pipe line system.

Q. What increase in the capacity of the line was effected by the construction of these compressor stations to which you have referred?

A. I would like to call your attention to the fact that in quoting capacities now, I am quoting prior to 1938, when work was done to increase the pressure and also when we, in estimating our capacities, gave proper credit to the flow formula.

Q. In other words, you are talking about the construction in 1936 and 1937?

A. That is correct. This work in 1936 increased the sales capacity of our system from 80 million to approximately [fol. 1611] 125 million cubic feet per day.

Q. This increase resulted solely from the addition of compressor stations? A. That is correct.



Q. What work, if any, was done in 1938? Was any construction of pipe line done in 1937? A. Yes.

The first delivery of natural gas under the Detroit contract was made July 7, 1936. The change-over from manufactured to natural gas was completed in December of the same year. The effective date, therefore, of the contract by one of its terms was January 1, 1937.

We had, in 1936, built capacity that we felt would be sufficient to carry all of our market requirements, including that of the Detroit area, for the winter of 1936.

We had not, however, built sufficient capacity to place us in a position to fulfill our maximum obligations under the Detroit contract, if we should be called upon to do so.

Therefore, in 1937, we did additional construction work along two lines. We further increased the installed horsepower in our various compressor stations by 29,400, and also started the looping of our main line; by looping I mean started the paralleling of the original line with another line, during that year laying approximately 270 miles [fol. 1612] of main line loops.

Q. What resulting capacity did you have after that work was completed?

A. This gave us an estimated resulting capacity of approximately 170 million cubic feet. Now, it was immediately after this, or in 1938, during which year we made these tests, because we could see, near the end of 1937, that we were going into a general industrial recession, if you please, and that increases in market requirements would not be as rapid as they had been, that we did the work, which work resulted in increasing our estimated capacity of our pipe line by 30 million or raising it from 170 to 200 million.

Q. As a result of that discovery, did you need to do any additional construction work in 1938?

A. We not only were not required to do any additional construction work in 1938 but, at the beginning of 1939, it did not appear that any would be necessary.

I would like to call your attention to the fact, however, that only about a third of this additional capacity could be classified under what you called "discovery." The other

was the result of actually improving the condition of the facilities as they then existed.

Q. What changes were found necessary, what increases were found necessary in 1939?

A. As we progressed into 1939, the Detroit City Gas [fol. 1613] Company indicated a probable maximum day the coming winter of 100 million, where the maximum under our contract as it then existed, was 90 million.

We immediately instituted a construction program to take care of this, as well as other apparent increases in demands due to the general improvement of business in the year 1939, which improvements probably were the fore-runners of what we call our defense program.

Before that construction work was completed, it was apparent that the Detroit City Gas Company would probably require more capacity than the 100 million, indicating and requesting us to be able to serve that varying requirement up to 125 million.

We, therefore, if you please, superimposed another construction program on the one then in progress, which would place us in a position to deliver to the Detroit area 125 million cubic feet per day.

Q. And how much pipe line construction was carried on during that year as a result of those two programs?

A. As I recall it, there was approximately 250 more miles of main line looping done; and certain additions to compressor stations.

Q. Do you recall what those additions were?

A. We put in two small units, one at Tuscola and one unit at Greensburg, 1200 horsepower is my remembrance.

[fol. 1614]. Q. Mr. Creveling, before recess, I believe we were discussing the construction program by the company carried on in the year 1939.

A. 1939, and the early part of 1940, it ran over.

Q. Upon the conclusion of that program, what was the sales capacity of the line?

A. The sales capacity was increased from 200 to 250 million cubic feet per day.

Q. In our references to capacity at various times, you have been referring to sales capacity at all times?

A. I only talk about that capacity which we can convert into dollars, which is sales capacity.

Q. - Yes. You have referred to the circumstance that the Detroit market was increasing from time to time. Have you had similar increases in other markets than Detroit?

A. I believe I indicated that in the statement to the effect that in 1939, not only were we requested for an increase in capacity dedicated to Detroit markets, but also our markets in general were increasing and at possibly as rapid a rate.

Q. Has the company carried on any construction since this work which was completed in the early part of 1940 up [fol. 1615] to recently, or is the sales capacity now the same as it was at that time?

A. 250 million cubic feet sales capacity as of the completion of the work of 1940 is the present sales capacity of our system.

Q. If the load during the winter of 1941 and 1942 is to be that which you are now estimating, will you be able to carry the peaks without additional construction?

A. We hope and expect to be able to carry all peaks created by our firm customers, but shall not be able to carry the total requirements of all customers attached to our lines at the present time.

Q. Do you recall what your cushion was on the peak day last year?

A. Our peak day's sales during the past winter were approximately 242 million cubic feet with a sales capacity of 250 million cubic feet.

Q. Has there been anything which prevented you from being ready to carry the peaks this winter? A. Yes.

Q. What is that?

A. We had under contemplation and had designed and put into operation, a construction budget, or a construction project which would have enabled us to, in our opinion, meet the coming winter's peaks substantially in their entirety, had we been able to obtain material soon enough

[fol. 1616] so that the construction work could have been completed before the time of those peak requirements.

However, although we applied for priority rating in May in order to obtain this material, primarily steel for pipe lines and in an amount of about 57,000 tons, we only, within the past ten days, have obtained a priority rating that, in our judgment, and the judgment of the steel mills, will give us this pipe.

We expect to obtain deliveries starting in November, possibly the middle or shortly thereafter, and running at the rate of from 18 to possibly as high as 30 or 35 miles a week thereafter, until all of the material has been made and delivered, and we expect to carry out the construction program as rapidly as material is received and weather conditions will permit.

Q. Mr. Creveling, is it your judgment that any excessive load being put on the line now or in the future or, rather, any of the increases in the demand are the result of the defense situation?

A. That was very definitely demonstrated in our discussion of that very problem with distributors to whom we sell gas wholesale and through them, with industries served by them with our gas.

Q. Where are those industries located?

A. They are located in Missouri, Illinois, Indiana and [fol. 1617] Michigan.

Q. Do you think that there is any substantial portion of the increase which results from that? A. Yes.

Q. You have stated that you have a planned program which you hope to have completed sometime during the winter. Will that construction program take care of the necessities of the company's markets as you anticipate them to be during the winter of 1942 and 1943, taking into effect additional demands arising under the defense program?

A. It is our studied judgment that the construction program now in progress will fall short of taking care of the requirements of the winter of 1942 and 1943 and we are already discussing, in preliminary form, the amount of additional construction work that will be necessary in 1942 in order to meet those requirements.

Q. The additional demands put upon the line by reason of the defense program, will those demands be permanent demands or temporary?

[fol. 1618] The Witness: Undoubtedly and indisputably, any temporary demands built up by industry which, by its very nature, is temporary, will not be lasting.

Q. Do you expect to attempt to build to take care of those requirements even though they be temporary?

A. We expect to build to take care of all of our implied obligations to the public to the extent that they appear to be within the realm of economic feasibility.

Q. What additional markets does the company now have in mind supplying over and above which it already now supplies?

A. Our present construction program will provide the immediate facilities of sufficient capacity to serve Flint, Pontiac, Kalamazoo, Battle Creek, Jackson, and some 80 other smaller communities in what is called the southern peninsula of Michigan and will be of such design that additions can be made as the market requirements increase and as the local supply of gas in the State of Michigan decreases to eventually supply substantially all of the market requirements of the southern peninsula of Michigan.

Trial Examiner: Just a moment at that point. Do the plans for new construction which you have just described exceed the estimate of outlay for 1943 as shown in Exhibit 47?

[fol. 1619] The Witness: They do not.

Mr. Culton: The plans which you have referred to are those which Mr. Burnham has explained in his exhibit?

Trial Examiner: Involving a prospective outlay of approximately \$6,000,000?

The Witness: That is substantially correct, yes, sir.

By Mr. Culton:

Q. That is for the transmission lines without including the field lines?

A. That is substantially correct for our main transmission system.

Q. Do you plan to have your increases in main line sales capacity so as to take care of the additional demands from the new areas to be served in Michigan?

A. It is our plan to increase our main line sales capacity at a rate which will enable us to meet the increasing market requirements of all of our present and potential customers.

Q. There was a question asked by the Examiner and the record may not be clear on it. He inquired particularly with respect to the 1942 expenditures. There will [fol. 1620] be some 1941 expenditures carried over into 1942 now?

A. That is right.

Q. Because of your delay in getting your priority orders?

A. That is correct. My answer was intended to indicate that this indicated 1942 expenditure would be superimposed upon that now in progress.

Q. Yes, even though this now in progress, as originally planned, will not be completed until 1942?

A. That is right.

Q. Have you examined, and are you familiar with, the estimates made by Mr. Morton of the demands which this company will be called upon to meet for the years 1941 to 1946? I believe it was Exhibit 40.

A. I have examined and, as a matter of fact, gone over those very critically with Mr. Morton when they were in the process of preparation.

Q. Do you adopt them as your own? A. I do.

Q. Why?

A. Because of the fact that Mr. Morton has been doing this type of work as a part of his regular duties for the corporation ever since I have been with the company. I have made it a practice to discuss with Mr. Morton all of his major estimates that appear in our annual budgets from year to year, and to check performance against prediction and have found that performance to be such that [fol. 1621] I have the utmost confidence in Mr. Morton's ability to make such estimates.



I have also, in my past connections, had eighteen years of experience along just such lines of work; and believe I am qualified to pass reasonably accurate judgment on such items.

Q. Are you familiar with Mr. Hinton's estimate of the estimated capital expenditures in the field, both on the basic load and on the anticipated load? I believe that is Exhibit 43, Schedules 1 and 2.

A. I am familiar in some detail with Mr. Hinton's estimate on the field end, having discussed those in considerable detail with him at the time of their preparation.

Q. Are you also familiar with his estimates of future operating and maintenance expense, both on the basic load and on the anticipated load and I believe that is in Schedules 3 and 4 of Exhibits 43.

A. I am also familiar with those.

Q. Are you familiar with Mr. Burnham's exhibit as to the future capital expenditures on the main line? I believe that is Exhibit 47.

A. I am familiar with that, also.

Q. Do you approve the estimates of Mr. Hinton and Mr. Burnham in these exhibits?

A. I most certainly do.

Q. There has been introduced here an exhibit by Mr. [fol. 1622] Watkins showing certain increasing costs of Panhandle Eastern Pipe Line Company. Are you familiar with that exhibit?

A. I am.

Q. In your judgment, does it reflect the increasing costs which this company is now having to pay for similar labor and material over the prices heretofore existing?

A. It most certainly reflects the proper trend in such costs.

Trial Examiner: Are you referring to proposed Exhibit No. 73?

Mr. Culton: Yes, sir.

By Mr. Culton:

Q. What do you mean by "the proper trend"?

A. By proper trend, I mean it reflects an upward trend. I am not at all certain that the rate of that upward trend, as indicated by this chart, is as rapid as it will be in the immediate future.

Q. When you came with Panhandle Eastern Pipe Line Company in 1936, what was the character of its financial structure?

A. Briefly, it had outstanding in private hands approximately 18 million par value 6 percent first mortgage and first lien bonds; 100,000 shares of \$100 par value 6 percent cumulative and participating preferred stock class A callable at 100 to 110, changing from one to the other at a certain date; and 10,000 shares \$100 par value 6 percent class B preferred stock, non-callable, and carrying [fol. 1623], the right as a class to elect two directors to the corporation; and some 728,000 shares of common stock having an estimated value of \$25 per share.

Q. Had any dividends been paid on the stock at that time? A. No dividends had been paid up to that date.

Q. Did you have occasion shortly after you came with the company to make any change in that capital structure?

A. It was quite apparent to me, as I got my feet on the ground and looked around for something that I might contribute that had not already been done, that in view of the change in money rates, there was a possibility of refunding the outstanding 6 percent bonds.

With that thought in mind, we started to work with the result that, early in 1937, those bonds were called with a part of the proceeds of a new issue of 4 percent first-mortgage and first lien 15-year bonds.

The amount of that issue was, as I recall it, [was] \$24,000,000. The difference in the net proceeds between the total issue and what was required to call the outstanding issue of 6-percent bonds, in an amount, as I recall it, of some four or five million dollars, was applied to the construction work of 1937.

Q. Since you have been with the company, has there been any change in the amount of common stock outstanding?

[fol. 1624]. A. Yes. In 1939, 80,000 shares of common stock was offered through rights to the stock holders of Missouri-Kansas Pipe Line Company, and substantially the entire amount was taken.

Q. At what price? A. At \$25 per share.

Q. Since that time, has there been any other change in the capital structure? A. Yes.

Q. What was it?

A. Money markets plus the fact that we, at this time, had behind us some earnings record, some indication as to the stability of our business and had established certain credits in the general financial markets by our performance, enabled us to believe that the then outstanding 4 percent first mortgage and first lien bonds could be refunded on a basis more favorable than the existing one.

Q. Were you able to do that?

A. We consummated such a refunding deal early this year, as of November, 1940.

Q. What was the basis of that?

A. This deal consisted of \$5,000,000 unsecured serial notes maturing at the rate of \$1,250,000 per year from the second to the sixth year; \$6,250,000 par value of mortgage notes maturing serially at the rate of \$1,250,000 a year from the sixth through the tenth year and twelve million par value of 3 percent first mortgage and first lien [fol. 1625] 20-year bonds on which the sinking fund, beginning in the 11th year, in an amount of \$1,200,000 per year, was sufficient to retire the entire issue at its maturity twenty years after the issue date.

Q. What was the necessity for the payment annually of certain sums and the provision of a sinking fund maturing the entire obligation in twenty years?

A. This corporation is engaged in the production, transmission and sale of a wasting asset. The management itself considers it good business to pay its debts before the commodity on which it must earn moneys with which to meet those debts has been exhausted.

Also, it is a requirement of that part of the public to whom we go for capital of this type to require that type of security.

Q. In other words, it is necessary to maintain the credit of the company? A. Yes, sir.

Q. The obligations must be paid before the gas is gone? A. I believe I so stated.

It might be interesting, in passing, to say that the average over-all cost of money during this last refunding proposition resulted in an average rate slightly below 2¼ percent.

Q. Mr. Creveling, is all of the money which the company has invested in additional facilities since 1936 represented in the increase in the outstanding bonds and stocks?

A. It is not. When I came with the company, we had outstanding approximately \$18,000,000 par value of first mortgage and first lien bonds. We now have outstanding comparable debt of approximately \$23,000,000. We have outstanding, let us say, substantially 160,000 shares of common stock at \$25 per share or substantially \$4,000,000 as the proceeds from that.

In that time, we have increased our plant account by substantially \$22,000,000, as I recall it.

Q. These amounts you have given for debt and common stock are in excess of that formerly existing?

A. That is correct. In other words, I am trying to answer your question as I understood it.

Q. Yes, and what has been the increase in construction? A. I would say in excess of \$22,000,000.

Q. Where has the rest of the money come from?

A. It has come out of the till.

Q. Is it going to be necessary for Panhandle Eastern Pipe Line Company, in the future, to go to the public for additional financing?

A. I anticipate that undoubtedly it will be.

Q. For what purpose?

A. For the purpose of further developing our properties to the economic limits largely determined by the requirements of our present and prospective markets.

[fol. 1627] Q. Are there any risks of a natural gas pipe line company and, particularly, of Panhandle Eastern Pipe Line Company, not shared by other types of businesses?

A. Of course, all types of business involve certain risks. There are certain risks peculiar to companies such as the Panhandle Eastern Pipe Line Company of varying degrees for different companies.

Those risks might be roughly classified under those incident to exploration or mining hazards which, I think, are generally understood, the production risks after the raw material has been discovered, if you please, such

risks as are involved in taking care of wells in different fields; no two wells require the same treatment and, as a matter of fact, quite frequently different wells in the same field require different treatment in order to produce the ultimate economic limit from those wells. We have salting conditions. That is now appearing in certain areas in the Amarillo field. We have water hazards and freeze-ups. The change in the quality of the gas which might become of some importance, especially in the Amarillo field, due to the fact that in the same general horizon in different parts of the field there are both sweet and sour gas or commercial and uncommercial gas.

By sweet gas, I mean gas that does not contain sulphur content in any appreciable amount and, conversely, by sour gas, I mean gas that does contain sulphur content [fol. 1628] in some appreciable amount. There might be some other risks named in the production—

Q. (Interposing). Is there any competitive risk?

A. Yes, from the standpoint of drainage, that is probably the largest single risk in the field from which we obtain our supply of natural gas.

Q. How does that risk come about?

A. It was partly in order to minimize this risk that we have adopted and pursued our policy either through purchase contracts or through acquisition and reallocation of acreage to so block our acreage that that drainage, if any, will be reduced to a minimum.

Q. How does that drainage come about?

A. It comes about by someone drilling a well offsetting a lease that you have, and taking from that well gas at such a rate that the underground movement of the gas will be from your lease to his lease.

Q. What risk does the company face from the standpoint of its transmission facilities?

A. In the field end of this company's transmission system, and by that I mean with its gathering lines, there is some considerable risk because of the character of the terrain. Certain parts of it are badly eroded, it cuts and washes very easily during heavy rains, and there are many of them, so that we are constantly faced with the proposition of having field lines uncovered and some of [fol. 1629] them go out, have to be replaced, and it



might be sufficient in size to materially lower the current amount of gas available for our markets, if it were not for the fact that we have three main field lines, two of which come out of the Hugoton area and one out of the Amarillo area and the risk of this type of field line failure is not nearly so great in the Hugoton field as it is in the Amarillo field, plus the fact that we have in storage, from fields to our markets, several hundred millions of cubic feet of gas sufficient in quantity to enable us to make any reasonable repairs or replacements without any hazard to continuity of service.

Now, on the main lines in general—

Q. (Interposing) Right there, that is merely a hazard of the company having to spend an unusual amount for repairs, rather than a real hazard from loss of service?

A. I would say the hazard of loss of service is very, very small.

Q. Where is the line pack with respect to the field?

A. The line pack is all between the field and the market.

Q. Therefore, a washout could not affect the line pack?

A. That is correct in the field lines. Now, on our main transmission facilities, while there is some risk there, the character of the country through which our main transmission lines run is such that we have very little chance of a line going out due to high waters or for any other [fol. 1630] reason that normally we might expect to occur.

We have taken care of our main line river crossings by having multiple crossings. The Mississippi River, for instance, has both an overhead crossing and a crossing under the bed of the stream. We also have, at the present time, 70 percent of our main line looped and, with the construction work now in progress, that will be increased to 85 percent and if we carry out our presently anticipated additional program for 1942, our entire main line will be completely looped, being, so far as I know, the first completely looped long natural gas transmission system in the country.



Q. When that is done, what have you to say as to the practical probability of any interruption of service, whether there is a hazard in that respect?

A. It is entirely a matter of degree of hazard. It would be foolish for me to say that there is no possibility of an interruption of service.

However, it is my very definite judgment that the practical hazard of such an interruption of service is reduced to a point where it is negligible.

Q. Can you give an illustration of that?

A. Yes, I think I can give an illustration of that by stating what happened within the past month and about which our customers knew nothing unless they read an account of the happening in some of the papers.

[col. 1631] Some workmen were digging a hole to bury a dead man as an anchor for an electric pole line at a point about a mile and a half west of Mexico, Missouri. In digging this hole, the workmen struck a dark-colored hard material which did not respond easily, and most workmen digging holes for pole lines expect the terrain to respond easily to the ordinary working tools, so they placed a charge of dynamite on this dark material and set it off, with the result that one of our pipe line systems was blown up; destroying about 300 feet of a newly constructed main highway nearby; completely interrupting Western Union service, about an 80 wire system, putting out of commission the main lines of two railroads, and seriously burning three men but, in passing, I am glad to say all of those men are recovering.

This happened at four-thirty in the afternoon. At twelve o'clock that night, in spite of this very severe fire, the line was ready to go back in service and, due to the fact that we had a two-line system, I do not believe that any of our markets were aware of the happening unless they read news items copied from the Mexico, Missouri, paper.

Q. In other words, you had a double line at that point and the other line was able to give service until the repair was made? A. That is correct.

Q. And where is that point located with respect to the line as a whole? Is it near the center or on one side, or how

[fol. 1632] does the distance from the point to the east end and the west end of the line compare?

A. It took place just west of Mexico, Missouri, and it is in the area really where our market requirements start to be substantial and I should say substantially halfway on our main line system.

Q. Do you consider that use of the loop line system as being a substantial protection to the public against interruptions of service?

A. Most definitely, yes.

[fol. 1633] Q. You have been discussing the transmission facility risks. I believe you stated there are some commercial risks?

A. Yes, there are some commercial risks that, to me, are much more likely of realization than these previous risks which we probably should classify as physical risks.

On the commercial risks, I have in mind, briefly, these and I am not endeavoring to mention all of them and possibly not in the order of their importance but in the order they come to me.

One is the risk of confiscatory taxes. By confiscatory taxes, I do not mean those taxes that are levied in the guise of excess profit taxes or normal taxes of that kind at all. Those are taxes that industry must bear and we do not cry about those taxes except to the extent that those taxes may be discriminatory, but I refer to taxes of this type: To the best of my knowledge and belief, there has not been a session of the Illinois State Legislature since I have been associated with this company at which there has not been introduced one or more bills, the purport of which is to tax every thousand cubic feet of natural gas sold within that State.

Those bills have proposed taxes ranging from five to as high as ten cents per thousand cubic feet and, of course, such a tax, if finally it were administered, would be completely confiscatory so far as our business in the State of Illinois is concerned.

Mr. Lee: Mr. Examiner, if you will pardon me—those in effect are not taxes are they?

Mr. Culton: He is talking about risks.

The Witness: This is a risk, Mr. Lee, that we face continually.

Mr. Lee: Such as strike bills that are introduced some time?

The Witness: I do not know whether they would be called that or not and I do not wish to indicate definitely who may be behind these taxes, but an implication might be gained from my next risk.

The Witness: (Interposing) There are in existence today no such confiscatory taxes, but there has not been a session of the legislature in Illinois in which an effort to pass such a bill has not been made.

By Mr. Culton:

Q. Your next commercial risk?

A. The next commercial risk would probably be that of competing fuels. Competing fuels is a real risk, probably from two main standpoints; one, that competing fuels are not subject to the same regulation that natural gas is subject to. It is true that under the Natural Gas Act, as it now exists, direct sales to the industry are excluded.

However, a large part of our business is, in its last analysis, competitive and ceases to be competitive only to the extent that, for certain uses, it gets into the luxury class and our wholesale customers or distributors sell much gas to industries within the distribution centers.

It is not possible to vary the prices to such industries sufficiently rapidly to meet changing competitive prices.

For this particular company, competing fuels offer an additional risk because of the existence of such large quantities of competing fuels in the same general territory as that traversed and served by Panhandle Eastern Pipe Line Company.

By that, I refer to the coal situation in Missouri and Illinois and to the fuel-oil situation in the Chicago area and close enough to the Detroit area that we have found fuel-oil being sold in that area during the past two years for as low as two cents per gallon.

Another risk that we must give consideration to is that of other supplies of natural gas, economically closer to our principal markets than our present supply is, which sources of supply did not exist at the inception of this project.

They were not known to exist at that time, and which have developed or may develop at any time. As an example [fol. 1636] of the seriousness of this, there are held under commercial oil and gas leases at the present time in the State of Michigan approximately two million acres, in the State of Indiana approximately 1,300,000 acres, and in the State of Illinois, approximately 3,700,000 acres, or, in total, something like seven million acres that are presently, at the present time, being explored in the search of oil and gas.

Mr. Littman: Are those near your pipe lines, Mr. Creveling?

The Witness: They are near our pipe lines. As a matter of fact, the most recent activity in the acquisition of oil and gas leases in the State of Indiana is in the northwest part of the State.

Within the past probably two weeks in this exploratory work, there has been drilled in the State of Illinois at a point some 50 or 60 miles east of St. Louis and 70 to 75 miles from our pipe line, a gas well having an open flow of 17 million cubic feet, so that this is a real risk.

By Mr. Culton:

Q. How is that a risk, Mr. Creveling?

A. It is a risk because of what seems to me the very apparent fact that whenever natural gas is discovered in commercial quantities that can be offered to the public economically on a more favorable basis than we are delivering the same commodity to the same public, the public will be given the benefit of it in some way, either we will

[fol. 1637] lose all or a part of our market or we will be compelled to reduce our prices to a point that is competitive with this new supply.

The Witness: Another risk that has recently arisen and one that no one had experienced previously is that risk indicated by Docket G-210.

By Mr. Culton:

Q. That is of this Commission?

A. Before this Commission, hearings on which were had last week. If the contentions made in this case—

Q. (Interposing) You mean in G-210?

A. —In G-210 are finally sustained, the immediate effect on the gross earnings of this company and by "immediate effect" I mean immediately upon putting into operation what is proposed, would be a reduction of the company's gross income in excess of \$1,000,000.

[fol. 1638] Q. Mr. Creveling, are you familiar with the study which was presented in connection with the testimony of Mr. Coffman in which he expressed, from the sources he had examined, his judgment as to the number of dollars this company would be required to receive if it properly served the public?

A. I am familiar with that. I went over that study in considerable detail with Mr. Coffman and with a great deal of interest.

[fol. 1639] Q. What specific items can you refer to which, in your judgment, were not sufficiently covered by the testimony of Mr. Coffman?

A. Without appearing to criticize Mr. Coffman's findings, which I do not, in which he stated, so far as the item about which you are questioning me is concerned, that the figure given by him was an irreducible minimum, there are these items that Mr. Coffman was not in a position to know about and which would materially increase the number of dollars arrived at by Mr. Coffman as essential to the satisfactory economic conduct of this company's business.

Because of our increasing demands, we are going to be required, in the immediate future, to make larger expenditures in the field end of our business than had previously been our practice. During the next short time, that item will be at least \$4,000,000—

[fol. 1640] By Mr. Culton:

Q. What additions do you think should be made to the [fol. 1641] estimates of Mr. Coffman in order to reflect matters for which the company needs additional money, over and above those referred to by Mr. Coffman?

The Witness: One, an expenditure in the immediate future for additional development and field lines and other items connected therewith of approximately \$4,000,000; the fact that while the over-all rate of amortization may be on a 25-year basis, a material part of our field investment, namely that in the Amarillo end, should, in my judgment, be amortized over a period of not to exceed 15 years, thereby requiring a larger sum for amortization the next few years.

The Witness: Also, actual experience during the past year indicates that an estimated addition of an item of 10 percent on material and pay rolls is not sufficient. It is my judgment, from experience for 1941, and as borne out by our records, there should be at least \$150,000 more per year added for this item. Those are the ones I think of, at this time.

By Mr. Culton:

[fol. 1642] Q. That is because of increased costs?

A. Certainly.

Q. Are there any other matters that he failed to take into consideration?

A. I do not recall any other in arriving at this figure, but there is one other matter that I think should be given consideration in a fair consideration of the problem before us, and that is this:



Because of the peculiar period through which we are now passing, we are experiencing an abnormally large increase in our gross business. That increase, in our judgment, is caused largely by the demand for fuel caused by the defense program and is one that we are being called on, to the best of our ability, to meet promptly when it arises. It is one that will not continue indefinitely and, therefore, should be given proper weight in arriving at a fair return for this company.

---

[fol. 1664] GEORGE S. YOUNG a witness called on behalf of Michigan Gas Transmission Corporation, being first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. Porritt:

[fol. 1665] Q. Where do you reside?

A. Detroit, Michigan.

I am Vice-President and also a Director of the Michigan Gas Transmission Corporation.

Q. Mr. Young, please state your education and experience.

A. I graduated from the United States Naval Academy in 1920. From then until 1925 I engaged in the performance of various duties, mostly of a technical nature, aboard various type of naval vessels.

In 1925, I entered Columbia University for postgraduate work in engineering, which work was completed in 1927, at which time I received a degree of Master of Science.

From 1927 to 1930, when I left the Navy, I performed engineering duties on a battleship.

In 1930, I entered the employment of the Columbia Engineering and Management Corporation, a subsidiary of the Columbia Gas & Electric Corporation. I continued in its employ until 1933.

In that year the Columbia Engineering Corporation, [fol. 1666] which was also a subsidiary of the Columbia Gas & Electric Corporation, was organized and replaced the Columbia Engineering & Management Corporation.

I continued in the employment of the Columbia Engineering Corporation until 1934. While in the employment of these corporations, I engaged chiefly in making engineering studies of natural gas projects and in the design, construction and operation of natural gas transmission facilities.

The Columbia Engineering Corporation was liquidated in 1934 and I was transferred to the United Fuel Gas Company at Charleston, West Virginia.

This company is also a subsidiary of the Columbia Gas & Electric Corporation, and while in its employ I was also engaged in making engineering studies of natural gas projects and in the design, construction and operation of natural gas transmission facilities.

I left the employment of the United Fuel Gas Company in 1936, when I was temporarily employed by the Panhandle Eastern Pipe Line Company at Kansas City, Missouri, to assist in the design and construction of compression stations which were built in that year between the Texas Panhandle Gas Field and the Illinois-Indiana State Line.

These stations were built to increase the capacity of Panhandle's transmission system to deliver gas to the Detroit market which had been acquired by the Panhandle Eastern Pipe Line Company.

[fol. 1667] Upon completion of my temporary employment by the Panhandle Eastern Pipe Line Company I was employed as General Manager of the Michigan Gas Transmission Corporation, a subsidiary of Columbia Gas & Electric Corporation. I established offices in Detroit on June 1, 1936, and except for a brief tour of duty in the Navy in 1941, I have been employed by Michigan Gas Transmission Corporation since that date.

I had some responsibility in connection with the construction of approximately 231 miles of 22-inch O. D. pipe

line and river crossings between Zionsville, Indiana, and Melyindale, Michigan. I have been responsible for the construction of all other additions to the Corporation's property, and for its operation. I have also personally conducted sales negotiations.

In 1938 and 1939, I was Chairman of the Transmission Committee of the Natural Gas Section of the American Gas Association.

Q. Mr. Young, have you been requested to prepare, or to have prepared, a general description of the physical properties of the Michigan Gas Transmission Corporation's transmission system?

A. Yes, a general description of the physical properties and also the source of supply and a brief description of the markets served with gas delivered from the system, all as of June 30, 1941.

[fol. 1668] Q. Has this description been reduced to writing? A. It has.

Q. Did you also prepare or have prepared schedules amplifying, in some detail, the general description of the Corporation's property?

A. Yes.

Q. Are these documents, a copy of which I have in my hand, the material to which you have just referred?

A. Yes, they are.

Q. Were these documents prepared under your direction and supervision? A. They were.

(The Document Referred To Was Marked Exhibit No. 77 For Identification.)

[fol. 1671] Mr. Lee: Mr. Witness, does your exhibit contain any statement with reference to the number of breakages of the pipe lines and the failure to supply at any time since the date of construction?

The Witness: Yes, on Page 15 of the exhibit, it refers to two pipe-line breaks, one of which occurred January 8, 1937, and one of which occurred on January 14, 1937.

Mr. Lee: Thank you for that information, and just one more question.

Does that comprehend all of the breakages or failures of the pipe line since its creation?

The Witness: Yes, since June 1, 1936, the time when I [fol. 1672] joined the company, it does.

By Mr. Perritt:

Q. Mr. Young, have you prepared or had prepared under your direction a map showing the pipe line system of the Michigan Gas Transmission Corporation?

A. Yes.

Mr. Montgomery: May I ask one question, Mr. Examiner?

Mr. Montgomery: It is in relation to the question just asked by Mr. Lee.

Your answer to Mr. Lee's question refers only to the section of the pipe line owned by Michigan Gas Transmission Corporation, does it?

The Witness: That is correct, sir.

Mr. Montgomery: Do you know whether or not there have been breaks in other sections of the pipe line since you have been with the company?

The Witness: There have been no other breaks in the pipe line belonging to the Michigan Gas Transmission Corporation.

[fol. 1673] Mr. Montgomery: I will ask you this and withdraw that question for a moment.

In your position with the Michigan Gas Transmission Corporation, if there were any other breaks in the line between the source of supply and Dana, Indiana, you would know about it, wouldn't you, necessarily?

The Witness: Yes. On one occasion I was advised there was such a break, and on only one.

Mr. Montgomery: And about what date was that?

The Witness: That happened to occur at the same time that the break occurred on January 8, 1937.

Mr. Lee: Has a break of any kind resulted in a failure of supply of gas to the Detroit market by your company, at any time?

The Witness: It resulted in a curtailment, but not a discontinuance.

By Mr. Porritt:

Q. Mr. Young, I show you a copy of a map of the Corporation's main line transmission system which is entitled [fol. 1674] titled "Transmission Lines of Michigan Gas Transmission Corporation", and ask you if this is the map to which you have just referred?

A. It is.

Q. Mr. Young, was this map prepared under your direction and supervision?

A. It was.

Q. Is it your opinion that it correctly shows what it purports to show? A. It does.

(The Document Referred To Was Marked Exhibit No. 78 For Identification.)

Q. Mr. Young, have you prepared, or had prepared, a statement comparing the capacity provided by Michigan [fol. 1675] Gas Transmission Corporation for the delivery of firm gas with the maximum daily deliveries of firm gas from the system? A. I have.

Q. Is this document which I now show you entitled, "Comparison of Daily Provided Capacity to Deliver Firm Gas with Maximum Daily Delivery of Firm Gas from System of Michigan Gas Transmission Corporation", the statement to which you have just referred? A. It is.

(The Document Referred To Was Marked Exhibit No. 79 For Identification.)

By Mr. Porritt:

Q. Will you briefly outline the information set forth in this statement?

A. Under Column "A" are listed the distributing companies to whom Michigan Gas Transmission Corporation sells firm gas or to whom it delivers firm gas for the account of Panhandle Eastern Pipe Line Company.

Under Column "B" are shown the location of the points of delivery to the respective distributing companies.

Under Columns "C" to "L", inclusive, are shown the capacities provided for each customer beginning with the [fol. 1676] winter period of 1940-1941 as compared with the actual maximum delivery of firm gas to each distributing company. The dates on which the maximum deliveries occurred in each winter period are shown on Line 37 of the tabulation.

Deliveries to certain of the distributing companies are not metered daily and the maximum deliveries in each of these cases was estimated from the total deliveries for the week or month during which the date of maximum deliveries occurred.

Q. Mr. Young, what have you to say concerning materials and supplies on hand as of June 30, 1941?

A. I consider that the quantities of materials and supplies on hand as of June 30, 1941, are the minima required for the operation and maintenance of the transmission facilities.

[fol. 1677] Mr. Littman: Just one minute, Mr. Young.

Referring to Column "J" of Exhibit 79, is all of the gas shown in that column firm gas?

The Witness: Yes, sir.

Mr. Littman: Will you elaborate for us with respect to the figure of 9,035 in Line 42 with the footnote "B" and explain what that footnote means?

The Witness: The measurement to the Central Indiana Gas Company at the Muncie measurement includes the delivery of interruptible gas.



Normally, we do not get a report of the daily deliveries to interruptible customers which we can subtract from the total deliveries to determine the firm deliveries.

In this case, there was one delivery to one customer which we could not obtain and, as stated in the footnote, we estimated the daily delivery to that particular customer on January 18, 1941, the date on which the maximum delivery occurred.

Mr. Littman: Did you deduct the amount for that industrial?

The Witness: Yes.

Mr. Littman: So that none of the columns, "C" to "L", inclusive, contain any interruptible gas?

The Witness: That is correct, except I might mention in connection with this note "B," again, that, if our estimate of the amount delivered to that one customer on that [fol. 1678] one day was in error, then interruptible gas to the extent of our error might have been included.

---

HENRY C. LEHN, a witness, called on behalf of Michigan Gas Transmission Corporation, being first duly sworn, was examined and testified as follows:

#### Direct Examination.

By Mr. Porritt:

Q. Mr. Lehn, will you please state your name, address, and present connection?

A. Henry C. Lehn, Buffalo, New York, Worthington Pump and Machinery Corporation.

Q. What is your present position with that company?

A. Consulting Engineer.

Q. State briefly your business experience, with particular reference to your experience with gas compressors.

A. Following several shop and drafting room engagements, in 1906 I entered the employ of the Snow Steam Pump Works, which is now the Buffalo Works of the [fol. 1679] Worthington Pump and Machinery Corporation, as draftsman.

From 1906 to 1911 I was engaged in detail gas engine drafting and later gas engine design. In 1911 I entered the Sales Engineering office of the plant where my work consisted of gas compressor and pipe line calculations and related general sales work, and also field work at gas compressor stations.

In 1918 I was made assistant chief engineer, and in 1923 Chief Engineer in charge of gas and Diesel engine design and field tests. I became Consulting Engineer in 1933, my present position, and devote special attention to pipe line compressors.

Since 1925 I have been in close contact with gas pipe line and compressor activities, retaining direct supervision of pipe line and compressor design at the Buffalo plant.

Since 1925, the Worthington Pump and Machinery Corporation has installed the main compressor equipment in more than thirty compressor stations on the major pipe lines.

Some of these installations are on the following lines:

Interstate Natural Gas Company; Memphis Natural Gas Company; Mississippi River Fuel Corporation; Colorado Interstate; Natural Gas Pipe Line Company; Northern Natural Gas Company; Panhandle Eastern; Michigan Gas; Southern Natural Gas Company; and others.

In line of my duties on behalf of Worthington Pump in connection with these installations, I took part in general engineering discussions with the pipe line organizers and [fol. 1680] particularly for estimates of their power requirements from which I calculated the size of engines and compressors, and made recommendations to them.

I have inspected many of these stations during erection and after they were in service, noting their construction, operation and manner of maintenance. I am also familiar with this type of equipment and with its history almost from the beginning, and have had an opportunity to observe its behavior over long periods of service.

Q. Have you inspected the three compressor stations of Michigan Gas Transmission Corporation located near Montezuma, Zionsville and Edgerton, all in Indiana?

A. I have.

Q. I show you a document entitled "Report of Inspection by H. C. Lehn" of equipment in the compressor stations of the Michigan Gas Transmission Corporation, and ask you if this was prepared by you in the light of that inspection. A. It was.

(The document referred to was marked Exhibit No. 80 for identification.)

Q. Can you summarize briefly, Mr. Lehn, the nature of [fol. 1681] the inspection you made of these compressor stations?

A. While the nature of my inspection is set forth in more detail in my report which has been marked Exhibit 80 and identified, the general nature was this/

My company, Worthington Pump and Machinery Corporation, was asked to furnish an engineer for the inspection of these compressor stations to determine how much they had depreciated since their installation.

Because of my familiarity with this type of equipment, I was selected by my company to undertake this work. I did visit the stations and examined first, the external parts of the engines to determine whether there was any evidence of deterioration visible there, and then I carefully observed the operation of the engines. Then I examined the station records covering hours of operation, measurements of wear and maintenance work.

Q. Did you determine the amount of wear on cylinder liner and piston rod parts?

A. Yes, by observation of the station records.

Q. Was your examination sufficiently complete and detailed to enable you to form definite opinions of the present condition of these units? A. It was.

Q. What was your conclusion as to the percentage condition which you were able to determine as to each of these units?

A. On the main Edgerton Station—99 percent; Zionsville Station—97 per cent, and Montezuma Station—96 percent. On the remainder of the auxiliary equipment, which is of a different type, Edgerton Station—99

percent; Zionsville Station—96 percent; and Montezuma Station—95 percent.

---

HOWARD S. RIDDLE, a witness, called on behalf of Michigan Gas Transmission Corporation, being first duly sworn, [fol. 1683] was examined and testified as follows:

By Mr. Porritt:

Q. Where do you reside? A. Columbus, Ohio.

I am employed by the Columbia Engineering Corporation, a subsidiary of Columbia Gas & Electric Corporation.

My present position is Electrolysis and Corrosion Engineer for the Columbia Engineering Corporation.

My technical education was received at Ohio State University and the University of Florida where I graduated in 1924 with the degree of Bachelor of Mechanical Engineering.

From 1924 to 1925 I was employed by the Jeffrey Manufacturing Company of Columbus, Ohio, as Assistant Chemist in the Metallurgical Department under the direction of Dr. C. C. Clevenger. This work consisted of metallurgical analysis of cast iron, steel, metal alloys, as well as calorimeter determinations on oils.

In 1925 I left the Jeffrey Manufacturing Company, organized my own engineering and surveying company in the City of Clearwater, Florida, conducting general engineering and property surveys. This business was conducted for approximately one year which terminated in selling out to Mr. R. B. Moore of Indianapolis, Indiana.

In 1926, I was re-employed by the Jeffrey Manufacturing Company of Columbus, Ohio, in the Engineering Department, Crusher and Pulverizer Division, on design and layout work.

In the fall of 1927, I was employed by the Columbia Engineering and Management Corporation as Assistant Electrolysis and Corrosion Engineer. I continued in its employ until 1933. In that year Columbia Engineering Corporation, which was also a subsidiary of the Columbia Gas & Electric Corporation, was organized and replaced the Columbia Engineering and Management Corporation. I continued in the employment of the Columbia Engineering Corporation until 1934.

In 1934, Columbia Engineering Corporation was liquidated and I was transferred to the Ohio Fuel Gas Company at Columbus, Ohio, which company is also a subsidiary of Columbia Gas & Electric Corporation. In February, 1938, Columbia Engineering Corporation was reorganized and I was again transferred to this organization, where I am employed at the present time.

My work has consisted chiefly in conducting electrolysis surveys on both main pipe lines and distribution plants of the Columbia system, in talling subsequent mitigation [fol. 1685] measures for their future protection against electrolysis, conducting soil surveys prior to construction along the right-of-way of proposed underground pipe lines and also along the right-of-way of operating systems for the purpose of determining the necessity of installing or applying protection against corrosion. Supervision as to the proper application of coating materials where protection was to be applied, and the design of various coating and piping wrapping devices.

In this connection, corrosion research was conducted on a various assortment of coating materials in an effort to select a salient few most suited for economical pipe line application.

Q. You mention the conducting of soil surveys on various properties of the Columbia system. Was this ever done on the property of Michigan Gas Transmission Corporation? A. Yes.

Q. Please specify where these surveys were conducted.

A. A soil survey was conducted on 20" Line A from the [fol. 1686] Illinois-Indiana State line east to Zionsville and on 18" Line B from Zionsville, Indiana, east to King Measuring Station near Muncie, Indiana. A soil survey was also conducted on the 22" Line C from Zionsville, Indiana, to Detroit, Michigan.

Q. What method was used in making these soil surveys or, in general, what was the procedure?

A. The Columbia Soil Rod was used, an instrument devised and patented by the Columbia system for determining the relative corrosivity of soil in place and at pipe depth.

[fol. 1687] Q. Did you find these soils where the surveys were conducted to be of a corrosive nature?

A. Yes, practically all soils are corrosive and, in this case, most of the soils are, in my judgment, sufficiently corrosive to justify the use of protective coating.

Q. Mr. Riddle, have you been requested to make a physical examination of the underground transmission pipe lines of the Michigan Gas Transmission Corporation?

A. I have.

Q. Have you prepared a written report on your examination of such pipe lines? A. I have.

Q. Is this your report, and does it contain the results of your physical examination and study conducted either by you, under your supervision, or in your presence and with your knowledge? A. It does.

Q. Does this report, in your opinion, correctly show what it purports to show? A. It does.

[fol. 1688] (The document referred to was marked Exhibit No. 81 for identification.)

Q. At how many locations during this survey was the pipe exposed for examination?

A. Thirty-seven excavations were made spaced approximately every ten miles, covering in all approximately 362 miles of transmission pipe line.

Q. Did you select the location for these pipe excavations or exposures?



A. I did not. It is my understanding that these locations were selected by a representative of the Central Service Corporation.

Q. In making the pipe observations, the results of which are herewith set forth, you personally observed the exposed pipe at each location and in each case rendered a judgment figure as to the percent condition? A. I did.

Q. Please explain the method used in arriving at the percent condition in the pipe line at each location where the pipe was exposed for examination.

A. Prior to the inspection at each location, the pipe was meticulously cleaned, removing all dirt, rust and scale so that a clean metallic surface was presented for observation. At each inspection location, approximately a five [fol. 1689]-foot section was so treated. The soil was removed below the bottom of the pipe for a distance of from eight inches to one foot, thus making possible a complete inspection of the bottom surfaces as well.

The pipe was carefully scrutinized over its total surface and any irregularities other than mechanical or mill blemishes, which were ascertained to be due to corrosion, were measured for depth with an Ames Dial Gauge registering in mils. The deepest of these was recorded at each location on the field inspection sheet.

The outside diameter of the pipe was calipered in a horizontal and vertical plane and notations made as to depth of cover and the soil type at each location.

[fol. 1691] Q. Were any of these inspections made on the new 24" loop lines which were laid in 1939 and 1940?

A. No inspections were made on these 24" loop lines, as they had been laid so recently and coated in their entirety so that they were considered as being in a 100 percent condition.

[fol. 1696] Mr. Littman: Yes.

Will you please turn to Page 7, Mr. Riddle, and state whether or not the figures in the column, headed "Maximum Fit" are expressed in hundreds of an inch?

The Witness: You mean, how the maximum pit is expressed in one-hundredths of an inch?

Mr. Littman: What does ".04" mean, for instance?

The Witness: That is four-hundredths of an inch. That is the depth of the pit we measured.

Mr. Littman: Now, Mr. Riddle, I wish you would turn to Page 17, and tell us whether you were present at these two inspections shown on Page 17?

The Witness: Yes, sir, I was.

Mr. Littman: Now, in order that we may understand the method you used, will you please take the inspection No. 9 on Page 17 of your Exhibit 81, and explain the various numbers and terms on that inspection report and then tell us precisely how you arrive at the pipe condition of 85 plus percent.

[fol. 1697] Just give us the detailed method that you used.

The Witness: Well, starting on, of course, we have the location of the particular inspection No. 9, by township, county and property ownership.

Mr. Littman: What does the next figure mean?

The Witness: That means, 100 feet west of the center line of the road and at a plus marking of .137 plus 86. That is a surveyor's plus mark for length of the pipe line.

Pipe Lines are measured in that manner from stile to stile. Immediately below that, you will notice there is "L. P." and "M. P.", meaning low pressure and medium pressure; field or service referring to service lines and transmission lines and you will note that I have ringed transmission.

Immediately under that is "depth of cover—36", indicating 36 inches of over-burden on the pipe line.

Mr. Littman: At that point?

The Witness: At that particular point.

"Kind of soil": you will notice that I have indicated clay and loam. There are also other types of soil shown

here, but I have indicated clay and loam at that particular location.

"Material determination", nothing was done with that in this particular case.

Mr. Littman: What does that mean, what would be done?

The Witness: In case we were trying to determine in [Vol. 1698] the field whether it was wrought iron or steel, we have a method of making a field determination by microscope.

The pipe is etched in the field and we examine it in the field so we can determine whether the pipe is steel or wrought iron.

Of course, we knew what it was in this case and we did not have to do that.

Mr. Littman: You did not have to do that at this time?

The Witness: Not at any time in this case, no, sir.

Mr. Goodman: Let me ask one question at this point, if I may.

What condition would you characterize as zero percent and what condition would you characterize as ten percent?

The Witness: That would be very hard for me to do unless I were able to see the pipe.

Mr. Goodman: Can you state your standards upon which you based your calculations of percent condition?

The Witness: My standards are simply, you might say, a judgment figure based on a large number of inspections that I have made from time to time, and comparing, perhaps in my mind's eye, a piece of new pipe right alongside of it with due consideration to wall thickness of the pipe.

It is merely a judgment figure. That is all I can say.

Mr. Goodman: What are the factors which enter into the judgment?

[fol. 1699] The Witness: Well, perhaps the type of soil, the environment, the depth of pitting on the pipe, how general that pitting is, whether it is continuous around the pipe, whether it is confined to the bottom surface only, the top or top shoulders, or the sides.

They would be factors that entered into it.

Mr. Goodman: I would like to ask you this question:

Did you compare the serviceability of a particular piece of pipe with the serviceability of pipe in 100 percent condition? Is that the basis of your judgment?

The Witness: I did, in what you might say my mind's eye.

Mr. Goodman: Well, then, a piece of pipe that you would rate at ten percent would have a serviceability, say, of one-ninth of that which you would rate at 90 percent, would that be correct?

The Witness: No, I would not say it was.

Mr. Goodman: I see. Therefore, you are not able to furnish me with any standard of comparison objectively for a 10 percent condition or a 90 percent condition, is that right?

The Witness: I can compare for you a 90 percent condition pipe line with a 100 percent condition pipe line if I have them immediately before me.

I have to see the pipe because there are so many things that enter into particular condition, you cannot say, of your own accord, that a certain piece of pipe, even from a picture, is 90 percent, 100 percent, or 50 percent.

[fol. 1700] Mr. Goodman: Have you ever seen a pipe which you would rate at 50 percent?

The Witness: I have.

Mr. Goodman: Is it in this plant?

The Witness: No.

Mr. Goodman: What would be the characteristics of the 50 percent pipe?

The Witness: Fifty percent pipe would be pipe that is fairly well corroded, probably in its entirety. Maybe at a particular location, there would be several leak clamps on the line, but the line was still in service transmitting gas, and there was no leakage whatever.

Mr. Goodman: What would that 50 percent condition mean with respect to serviceability?

The Witness: I do not believe that that would enter into the serviceability, as far as transporting gas is concerned.

Mr. Goodman: Well, would one have a right to assume from it, for example, that 50 percent of its service life had departed?

[fol. 1702] The Witness: Absolutely not. That line could undoubtedly go on carrying gas for a number of years. You might say that 50 percent of its value had departed.

Mr. Goodman: I will stop here.

Trial Examiner: Are there any other questions?

Mr. Littman: Yes.

Mr. Riddle, you were explaining Inspection Report No. 9 on page 17—

The Witness: That is right.

Mr. Littman: When Mr. Goodman asked you some questions. Now, will you proceed with your explanation of Inspection Report No. 9?

The Witness: I believe I left off at material determination, just after that.

Mr. Goodman: Yes.

The Witness: The next statement is "Pipe coated paint yes or no." You will note there that I have indicated that the pipe was not coated or painted.

Mr. Littman: Well now, what does the term "Yes" mean there?

The Witness: That in case it had been coated I would [fol. 1703] mark "pipe coated" and mark "Yes" or if it had been painted I would have marked it "Painted" and "Yes."

The next statement is "Kind of joint." Where no joint either weld or coupling appeared in the excavation, nothing was indicated in that space.

Trial Examiner: That is, Mr. Riddle, you are using a printed form and where the alternative is shown you have encircled the condition which you wish to designate as applicable to the particular inspection?

The Witness: That is right, sir.

The next is "Inventory Data." That is from inventory sheets, the nominal size of the pipe, 18-inch with the nominal wall thickness.

Immediately under that is the material, whether it was steel, wrought iron, cast iron. You will note that I have indicated steel.

Mr. Littman: Just a minute, what do you mean by this nominal size and "nominal wall thickness"?

The Witness: The nominal size would be the calipered size of the pipe as stated on the inventory sheet. The size of the pipe.

Mr. Littman: Pipe new?

The Witness: Pipe new, yes.

Mr. Littman: That is the ordinary or usual wall thickness at which this pipe is purchased new?

[fol. 1704] The Witness: That is right.

Mr. Littman: There is some tolerance from that, I take it, is there not?

The Witness: There is.

Mr. Littman: It is not all exactly .281, is it?

The Witness: No.

Mr. Littman: Will you proceed with your explanation?



The Witness: Immediately under that is material, steel, which I have indicated. We knew, of course, the pipe was steel and the type, whether screw, plain-end or weld or bell and spigot. Of course, in the case of cast iron it would have been marked "Bell and spigot" if it were.

Then the job numbers, the job on which I worked is indicated by C-1350.

Mr. Littman: I don't recall whether you told us what kind of joint was on this pipe.

The Witness: No, as I said before, if the joint did not show in the excavation, the point of excavation, that was left blank, as it wasn't observed. If the weld happened to be at that location, where by happenstance the excavation was made, I would mark it "weld."

Mr. Littman: Do you happen to know what kind of joint was actually on this pipe?

The Witness: Yes, it was both weld and dresser coupling.

[fol. 1705] Mr. Littman: But you didn't make a notation unless—

The Witness: Unless I actually hit one of those locations.

Mr. Littman: I see. All right. Will you proceed with your explanation?

The Witness: Now, at the top of the page, the line B, that designates which one of the three lines it was on the system. Then the nominal size, 18-inch, wall thickness. Now, the next—

Mr. Littman: Pardon me, before you go to the next one will you tell us why you repeat the same data as to nominal size and wall thickness?

The Witness: Well, one was from inventory sheets and the other is just a repetition. If we would not fill out on this one side for our own use we would repeat it up there at the top of the page. In this case we filled out everything we had except for material determination.

Mr. Littman: The nominal size and wall thickness figures which appear for the second time do not represent actual measurements, do they?

The Witness: No, not right there. Immediately below that it does, as far as the outside diameter is concerned.

Mr. Littman: Yes, I see. I thought there might be some distinction by reason of the fact that you have the term "Inventory Data" below.

[fol. 1706] The Witness: Those are selected from the inventory sheets, it is designated on the inventory sheets, themselves.

Mr. Littman: In both instances?

The Witness: No, well, I presume that that nominal size 18-inch is from inventory sheet and inventory data, also.

Mr. Littman: I see, that is just a pure repetition?

The Witness: That is pure repetition.

Mr. Littman: And those sizes come directly from the inventory data.

The Witness: Now shall I proceed?

Mr. Littman: Yes, if you please.

The Witness: Immediately below that is the calipered outside diameter, you will notice H. and V. which designates the horizontal and vertical plane at which this pipe was calipered.

Mr. Littman: This represents the actual measurement in the field?

The Witness: Yes.

Mr. Littman: After the pipe has been cleaned?

The Witness: After the pipe has been cleaned.

Mr. Littman: You may proceed.

The Witness: Immediately below that is the description of the pitting which was noted at this particular location. We have rather numerous descriptions there, but these

[fol. 1707] certain pitting descriptions were indicated which served to represent the condition of the pipe at the particular location where it was observed. In this case the pitting was very small and though sharp scattered over the entire surface of the pipe, but they were very few.

Mr. Littman: All right, will you proceed with your explanation? I believe you got as far as maximum pit depth and average estimated depth. Will you explain those for us?

The Witness: Yes, the maximum pit depth, as I said in my previous testimony, was measured with an Ames dial gauge after the pipe was cleaned. The Ames dial [fol. 1708] gauge was set immediately over the pit and the reading was taken on the dial which read in mills and in this case the maximum pit depth was .06.

Mr. Littman: How many pits did you measure at this particular point before you hit the deepest pit?

The Witness: Well, when we went into the excavation we would start at the top surface. We would scrutinize the top surface very carefully and measure pits as we went along, every pit we could see that looked like it might be deeper than the previous one until we struck with a series of measurements the deepest pit and that was recorded.

Now, from observation the average estimated depth was .01 at this particular location. None of these pits were recorded except the deepest pit.

There is no computation put down on paper, but that .01 is purely an estimate after we had obtained the maximum pit depth.

Mr. Littman: Well, that is the average depth of how many pits at this point?

The Witness: That is a judgment figure on the estimated depth of the pits.

Mr. Littman: Well, I think I understand that .05 inches is the maximum.

The Witness: .05, I beg your pardon, I was looking at the maximum figure. They are both on the same page.

[fol. 1709] Mr. Littman: Referring to Inspection Sheet No. 9, I understand that .05 represents the deepest pit that was found.

The Witness: That is right.

Mr. Littman: Over the four feet of exposed section of pipe.

The Witness: That is right.

Mr. Littman: Now then, you have averaged estimated depth .01 inches. Isn't that the average of all the pits that was measured?

The Witness: That is an estimated average of all the pits that were measured.

Mr. Littman: What do you mean by estimated average, Mr. Riddle?

The Witness: ~~Merely~~ a judgment, as you go along you record in your mind the depth of the pits as you go. Now this was not put down on paper, but you can easily estimate in the field the average depth of those pits.

Mr. Littman: You could very easily calculate the exact average, couldn't you?

The Witness: Well, there are so many small irregularities on the pipe, perhaps due to corrosion, that are immeasurable. They are visual but you can't put an Ames dial gauge on them and get any depth that is readable.

Mr. Littman: Then, the fact, as I understand it, is [fol. 1710] that you didn't record the measurements of all the pits?

The Witness: No.

Mr. Littman: And then you added them up and divided by the number of pits to secure the average estimated depth; did you?

The Witness: No, I did not.

Mr. Littman: That is just a judgment figure, is it?

The Witness: That is the estimated judgment figure.

Mr. Littman: And it might be higher or lower than the average figured mathematically, might it not?

The Witness: I believe it would be very close to the average in this particular case.

Mr. Littman: Well, you don't know if you didn't average it up mathematically, do you?

The Witness: It wouldn't be off very far.

Mr. Littman: All right, now the next item I think is "Field Estimate of Pipe Conditions, 85 Plus." Will you tell us how you arrived at that?

The Witness: That, also, is a judgment figure.

Mr. Littman: Well, judgment arrived at from the data which appears on Inspection Sheet No. 9?

The Witness: Which appears on Inspection Sheet No. 9, that is correct.

Mr. Littman: Was any other data considered?

The Witness: No other data except visual inspection. [fol. 1711] Mr. Littman: Which is recorded on this inspection sheet?

The Witness: Which is recorded on this inspection sheet.

Mr. Littman: Well now we have all the data, then, before us up to this point.

Now, tell us how you got to 85. I am trying to bridge the gap there. Give us the mental process that you went through to get the 85.

The Witness: When you are in an excavation and you have a piece of pipe immediately before you—

Mr. Littman: (Interposing) Let's take this excavation, if you will pardon me.

The Witness: Yes, sir, this excavation. You have a piece of pipe before you and you have gone over it, measured pit depth, examined the bottom very carefully and meticulously. Then you compare, after seeing a great

number, perhaps, of other excavations with pipe, maybe worse or better, you compare that with new pipe, taking into consideration wall thickness, the depth of penetration in this particular case and you render then a judgment figure. That is, my judgment figure, the percent condition of that pipe. It is just slightly better than 85 percent.

Mr. Littman: Did you calculate what the percent condition would be when calculated mathematically by relating the maximum pit depth to the original wall thickness?

[fol. 1712] The Witness: No.

Mr. Littman: You didn't make any such calculation?

The Witness: No such calculation.

Mr. Littman: And you didn't make any such calculation with respect to the so-called average estimated depth?

The Witness: No, as I say, this is entirely my judgment figure.

Mr. Littman: In other words, you didn't go through any mathematical calculation before you arrived at 85?

The Witness: No, I did not.

Mr. Littman: And you have told us all that you can tell us, have you, about how you got your 85?

The Witness: It is just simply by a judgment figure, that is all I can say.

---

[fol. 1718] FRANCIS S. HABERLY was called as a witness on behalf of Michigan Gas Transmission Corporation and being first duly sworn, was examined and testified as follows:

By Mr. Porritt:

My name is Francis S. Haberly and I live in Chicago, Illinois, and I am a consulting engineer with offices at 122 South Michigan Avenue, also in Chicago.



I was educated in grade and high schools at Fort Wayne, Indiana, completing the latter in 1914. This schooling was supplemented by intensive engineering study on my own part, together with extension courses in engineering [fol. 1719] and business administration.

I was further benefited by practical experience as an apprentice in the student course of the General Electric Company at Fort Wayne, Indiana.

In 1916, following my student training, I entered the engineering department of the Fort Wayne & Northern Indiana Traction Company.

After a summer spent as a laborer on construction and maintenance work, I became a draftsman and general assistant to the engineer of ways and structures and to the superintendent of overhead construction.

Later I became an assistant engineer and my duties consisted of design, surveys and engineering for construction and maintenance of track, structures and overhead. In 1917, under the personal direction of the president of the company, the late Robert M. Feustel, I made an appraisal of a large part of the company's street and inter-urban railway property.

Following two years in the Army as an officer of artillery, I joined the consulting engineering staff of Mr. Feustel and was employed by him until he disbanded his organization in 1924, my duties being principally in connection with valuation and appraisal work. Such work included the following: The Indiana Service Corporation at Fort Wayne, Indiana, in 1919. This was a repricing and bringing down to date of the appraisal which I had [fol. 1720] made in 1917 prior to my entry into the Army. This work was done largely by the use of indexes.

The Nashville Railway & Light Company in Nashville, Tennessee, in 1920. This was an inventory and unit cost appraisal of railway and light and power property. The original cost was also determined partly upon the basis of book analysis and partly by the use of indexes.

The Great Northern Paper Company in Millinocket, Maine, in 1920. This was an inventory and unit price appraisal for tax purposes.

The Philadelphia Rapid Transit Company, Philadelphia, Pennsylvania, in 1921 and '22. This was an inventory and unit price reproduction cost appraisal with original cost being determined by detailed indexes. Mr. Feustel in this case represented the City of Philadelphia.

The Frankford Elevated Company, Philadelphia, Pennsylvania, in 1922. This work consisted of setting up property records of a city-owned elevated.

The Tennessee Electric Power Company, Chattanooga, Tennessee, in 1923 and 1924. This was an inventory and unit price appraisal of street railway, light and power and hydro-electric property. Reproduction costs at various other price levels were obtained by indexes.

In April, 1924, I took a temporary assignment as special assistant to the general manager of the Tennessee Electric Power Company in matters connected with rate analysis, valuation and preparation of technical exhibits for court cases involving rates and valuation.

In December, 1924, I was employed by Mr. William F. Sloan of Chicago on valuations of the New England Telephone and Telegraph Company with property in five of the six New England States. Also the Cincinnati & Suburban Bell Telephone Company and the Ohio Bell Telephone Company.

In May, 1926, following my work with Mr. Sloan, I was employed by the late Albert S. Richey and remained with him, first, as an employee and later as an associate until his death in June of 1936. Mr. Richey was Professor of Electrical Engineering at Worcester Polytechnic Institute at Worcester, Massachusetts, as well as being a nationally known engineering consultant.

During my association with Mr. Richey I was actively connected with or in responsible charge of the following appraisals:

United Traction Company, Albany, New York, in 1926. This work consisted of checking an appraisal made by the company and determining costs at various price levels by indexes. Mr. Richey in this case represented the City of Albany.

The Nashville Railway & Light Company, Nashville, Tennessee, in 1926 and '27. This was an inventory and unit price appraisal of the street railway and light and [fol. 1722] power property on which I had worked in 1920 under Mr. Feustel. In this case Mr. Richey represented the State Commission.

The Tennessee Electric Power Company in 1927 and '28. This was an inventory and unit price appraisal of property on part of which I worked in 1923 under Mr. Feustel. The property included one street railway system, considerable hydro-electric property, electric generating, transmission and distribution systems covering more than one-half of the state as well as several water companies. It is this property which was sold to the Tennessee Valley Authority and is now operated by that Authority. Indexes were used on minor parts of this work. Mr. Richey, again, in this case represented the State Commission.

Southern Public Utilities in North and South Carolina in 1929. This was an inventory and unit price appraisal of street railway, light and power and gas property. For this work I took leave of absence from Mr. Richey and was employed by Jackson & Moreland of Boston, Massachusetts.

In 1930 I returned to Mr. Richey's employ and made an inventory and unit price appraisal of that part of the Third Avenue Railway System located in Westchester County, New York.

In 1931 this appraisal was repriced and brought down to date by means of indexes. Other jobs of lesser importance during the period 1931 to '35, included the following: [fol. 1723] Toledo, Bowling Green & Southern Traction Company, Conestoga Traction Company, Conestoga, Pennsylvania, Omaha & Council Bluffs Street Railway Company, Chicago, North Shore & Milwaukee Railroad Company, the Ottawa Electric Railway Company, the Sioux City Gas & Electric Company. My work in this latter case consisted of the development of indexes for the gas property.

In 1933 an appraisal of the Louisville Gas & Electric Company in Louisville, Kentucky, was made by the use

of indexes. This work covered electric light and power, natural gas fields and gas transmission lines, artificial gas plants and the attendant distribution system.

Public Service Company of Northern Illinois in 1933. This was a valuation of light, power and gas property made by the use of indexes.

An appraisal made by the application of unit prices to the same property as of the same date by independent engineers produced results differing by 5 percent.

The Commonwealth Edison Company, the Chicago District Electric Generating Corporation and the Super Power Company of Illinois in Chicago in 1934 to '36. This was an appraisal of the electric light and power property in the City of Chicago in which reproduction cost was obtained by the application of detailed indexes to the original cost.

An appraisal made by the application of unit prices to [fol. 1724] the Commonwealth Edison portion of the property as of the same date by other engineers produced results differing by 1.7 percent.

Chicago Rapid Transit Company, Chicago, Illinois, in 1936. This was an appraisal made by us of indexes for tax purposes.

The People's Gas, Light & Coke Company in 1935 to '38. This was an appraisal of the gas property in Chicago in which reproduction cost was obtained by the application of detailed indexes to the original cost. Here, again, an appraisal made by the application of unit prices to the same property as of the same date by independent engineers produced results differing by 1.6 percent.

In June, 1936, Mr. Richey died suddenly and I have since carried on the business under my own name. I continued such work of Mr. Richey's as was then in progress which consisted of presenting the testimony in the People's Gas, Light & Coke Company case and in making a revaluation as of a later date.

The valuation work done by me since that time has included a tax valuation of a part of the Third Avenue Railway System in New York in 1938, an inventory includ-

ing the setting up of property records for the Montreal Light, Heat & Power Consolidated in Montreal, Quebec, in 1939 and '40 and in the same two years an inventory and unit price appraisal of the properties of the Pittsburgh Railways Company for purposes of reorganization.

[fol. 1725] At the present time I am engaged in making appraisals of the property of the Chicago Rapid Transit Company, the Chicago Surface Lines and the Chicago Motor Coach Company, all in Chicago. These last three named valuations are being prepared by the application of indexes to previous appraisals or to original cost.

There are currently prepared in my office construction cost indexes of electric light and power, artificial gas and electric railway properties which reflect the variation in construction costs of typical properties, exclusive of land, on a nationwide basis.

I am a member of the American Institute of Electrical Engineers as well as a member of the American Transit Association.

Q. Mr. Hakerly, were you asked to make a determination of the existing accrued depreciation of the various structures on the property as well as on the equipment in the measuring and regulating structures and also on the general equipment?

A. I was.

Q. Did you make such a determination? A. I did.

Q. I show you an exhibit marked "Michigan Gas Transmission Corporation, Accrued Depreciation on Com-[fol. 1726] pressor Station Structures, Measuring and Regulating Station Structures and Equipment, Other Transmission System Structures and General Equipment as of June 30, 1941" and ask you if this was prepared by you or under your direction?

A. It was.

(Document referred to was marked Exhibit No. 82 for identification.)

Q. Did you inspect the property on which you determined the existing accrued depreciation?



A. I did. The property was inspected by myself and my principal assistant on August 13 and 14 and I made a further inspection on September 26, all in this year. On both occasions I was accompanied by Mr. C. D. Alstadt, superintendent of transmission of the Michigan Gas Transmission Corporation.

I inspected the buildings and structures at the three compressor stations in considerable detail. Structures at these locations comprise all of the compressor station structures as well as all of the miscellaneous transmission system structures on the property.

In addition, I inspected the measuring and regulating [fol. 1727] structures at Detroit as well as many of the smaller measuring and regulating structures, including their equipment, which are scattered over the property.

In the course of this inspection of the structures and as a result of considerable time spent in the company offices, both in Detroit, Michigan, and in Fort Wayne, Indiana, an opportunity was offered to see practically all of the general equipment such as the furniture and other miscellaneous equipment.

Q. As a result of the inspection which you have just described, will you please state the condition in which you found the structures and the other items of property upon which you were asked to determine accrued depreciation.

A. The condition of the structures and of the measuring and regulating station equipment was extremely good. Practically all of the structures had been built since 1936 and, therefore, are comparatively new and modern in type of construction. There were practically no signs of age, wear, weathering or deterioration and the entire property was extremely clean and orderly, in excellent repair, very well maintained, well painted and gave every evidence of exceptionally fine housekeeping.

I have inspected many properties in the course of my valuation work, including properties of street railway companies, electric light and power companies and artificial [fol. 1728] and natural gas companies and have never seen an entire property in an equally high state of



maintenance. In fact, little could be found indicating depreciation due to physical deterioration alone.

In arriving at condition percent for the structures and for the equipment in the measuring and regulating station structures, consideration was given to the effect of wear and tear, action of the elements, the degree of serviceability, the state of maintenance, obsolescence as well as the age and probable future life use.

Q. In arriving at your condition percent for these parts of the property, did you use a straight-line method of depreciation?

A. No, I did not. I have just explained the various things which were given consideration and I would like to state the condition in which I found this property offers strong evidence that well maintained property does not depreciate on a straight line, but depreciates less rapidly during its early life than it does in later years.

I did give consideration to age and life in arriving at my final conclusions as to the condition percent of the property, but I did not use the so-called straight-line method. I was not determining the amount which might be set up annually in order to amortize the property over a specific number of years, but I was determining in my [fol. 1729] best judgment the actual existing conditions of the property at the present time.

Q. In the discussion you have just given as to your determination of accrued depreciation, you have limited yourself to the structures and to the measuring and regulating station equipment. Were you not also asked to determine the percent condition of the general equipment?

A. I was.

The property included under the heading of "General Equipment" consists of the office furniture and fixtures, the transportation equipment such as automobiles, trucks and tractors, the stores equipment which is composed largely of pipe racks and the tools and work equipment which is made up of concrete mixers, portable pumps, surveying instruments and all other small tools. Property of this kind has relatively a short life as compared to the structures and equipment. It was found to be in very

good physical condition, well maintained and repaired and for the most part of quite recent purchase.

In determining the percent condition of this character of property, the same considerations were given to the effect of wear and tear, action of the elements, degree of serviceability, state of maintenance as well as age and probable future life.

This property was depreciated at a faster rate because [fol. 1730] of its comparatively shorter life and consideration was given to the salvage or trade-in value which probably would be realized upon replacement or retirement.

Q. Would you indicate in a general way the conditions which you found?

A. The conditions are expressed numerically in Exhibit 82. For the compressor station structures, the largest of which are the main compressor buildings and the auxiliary buildings, I found a condition percent of 94.8 for the property constructed in 1936, 96 for the property constructed in 1937 and 97.7 to 98.1 for the property constructed in 1940.

For the other transmission system structures consisting largely of residences and garages, I found conditions ranging from 89 for the 1936 construction to 98 for the 1940 construction.

In account 354.1, Compressor Station Equipment, I included certain items which were considered to be structures and upon which I placed the condition percents. These comprise the cooling towers and their foundations and the elevated water tanks and their foundations. Condition percent for the cooling towers ranged from 91 percent for those constructed in 1936 to 97 percent for those constructed in 1940. For the water tanks, including their foundations, the conditions ranged from 96 percent for the 1936 construction to 99 percent for the 1940 construction.

[fol. 1731] For the smaller structures included in Account 354.2, Measuring and Regulating Station Structures,

as well as to the equipment therein, conditions ranged from 77 percent for property built in 1931 to 99 percent for property built in 1940.

Q. Mr. Haberly, the last statement that you made, you said for the smaller structures included in Account 354.2. Isn't that 352.2?

A. I probably mis-spoke it; 352.2.

With regard to the general equipment, condition percents as determined by me are as follows:

For the office furniture and equipment, 78 percent; for the transportation equipment, 71 percent; for the stores equipment, 90 percent; and for the tools and work equipment, 79 percent.

Mr. Goodman: I have some difficulty in understanding just what you mean by the use of the word "condition." [fol. 1732] Do you mean something different from or something in addition to its state of physical integrity?

The Witness: Conditions, which I have applied here indicate something somewhat below its state of physical integrity because I have given consideration to age and probable future life and serviceability.

Mr. Goodman: So that you have used these factors in accumulated fashion with the result that you have made a deduction for deterioration and then you have added to that deduction something for other factors. Is that right?

The Witness: Not necessarily added something for the other factors, but in arriving at my final conclusion I have taken them into consideration.

Mr. Goodman: Well now, you say that you have considered the probable future life in use. In what way would the probable future life affect the present condition?

The Witness: It would affect it if I am giving consideration to age, in that I have to take into consideration the probable life in order to give effect to age.

Mr. Goodman: Now, did you in every instance give effect to age?

The Witness: In practically every instance, as I recall, the condition which I placed upon the structures is lower in my opinion than its physical condition.

Mr. Goodman: Well, will you state how you gave effect to age?

[fol. 1733] The Witness: By lowering the condition percent that I had formed in my judgment as representing its strictly physical condition.

Mr. Goodman: I had in mind you would give me the processes of giving effect to the matter of age.

The Witness: There are no processes, it is simply a matter of judgment. No mathematical calculations are performed in weighting the various elements I considered.

Mr. Goodman: Did you consider the number of years in service which the article under examination had?

The Witness: I did.

Mr. Goodman: And let us assume, for example, that it was five years. Now, did you consider its probable future life?

The Witness: I had that in mind, yes, sir.

Mr. Goodman: What figure did you use for its probable future life, if any?

The Witness: I would have to know what particular piece of property we are discussing.

Mr. Goodman: Well, you used different figures for different pieces of property, then?

The Witness: Naturally, I would.

Mr. Goodman: And did you not consider that its probable future life might be limited by the exhaustion of the wells?

[fol. 1734] The Witness: I did not use that as the probable future life.

Mr. Goodman: I take it that you took into consideration, then, its probable future life as dependent upon factors of deterioration and obsolescence?

The Witness: Right.

Mr. Goodman: Well, what reason could you advance for marking down the property on the ground or score of obsolescence?

The Witness: There was no obsolescence.

Mr. Goodman: In other words, you considered obsolescence and rejected it as an effective cause of depreciation. Is that right?

The Witness: No, if I had found obsolescence in the property I would have given it consideration. I found none whatever.

Mr. Goodman: So that we can strike obsolescence out of this picture, completely?

The Witness: As being reflected in the condition percent. It is, however, one of the elements which I gave consideration to.

Mr. Goodman: Now, you then obtained a percent depreciation indicative of a state of physical integrity by considering the physical evidences of deterioration and the age of the property in service as compared with its probable physical life. Isn't that right?

The Witness: Yes, in a measure, however, the condition which I place on practically every structure is, in my judgment, lower than the condition I would have placed there on purely considering physical integrity.

Mr. Goodman: Why did you place it lower?

The Witness: Because age, I believe, is an element which should be taken into consideration in determining depreciation because there are occasionally points of deterioration which cannot be seen and because in all of my determinations of condition percent my effort has been to reflect the effect of age independent of the physical condition as seen.

Mr. Goodman: Well now, the first part of your answer agrees with what I thought you did as represented in my question to which you said "Yes, in a measure." That is



to say that you used age as a guide to your judgment in revealing to you the presence of invisible deterioration or its life probability.

The Witness: It is used for that purpose and also for the others which I mentioned.

Mr. Goodman: Well now, can you state the extent to which you depreciated any item of property here by reason of its age in comparison with its physical service life and, [fol. 1736] also, the extent to which you considered that age as indicative of invisible deterioration on the one hand, and as indicating some additional reason for further depreciation? Can you give an example of that?

The Witness: No, I don't believe I can do that. Age and the other elements which I considered were all taken into consideration, but I do not think I can give you an example breaking it down into the various elements and weights which were assigned thereto.

Mr. Lee: Well then, what you did all through, what you really did was to exercise your judgment upon your observation of the property?

The Witness: Exactly.

Mr. Lee: And there is no way to apply any test to your statements, is there? For example, if you said that the [fol. 1737] present condition was 96 percent and some other witness said it was 94 percent, it is just a question of judgment on your part and a question of judgment on his part, if he arrived at it the same way you did.

The Witness: I think that is correct. I do not think that depreciation can be determined with precise mathematical accuracy.

Mr. Lee: No, but when you say that you comprehend certain factors, obsolescence and things of that kind, you don't break them down into percentages, you don't add them up, you don't use them, really, at all, it is simply just your independent judgment.

The Witness: They are the guides to my judgment and the things which I am looking for as I formulate my opinion as to the condition of the property.



Mr. Lee: Yes, but when you say they are the guides to your judgment you are not able to tell us on cross-examination how much credence you gave to each of the guides, are you?

The Witness: It would depend upon the individual case.

Mr. Lee: Did you have any work sheets?

The Witness: Yes, I did have.

Mr. Lee: And did your work sheets break it down?

The Witness: They did not.

Mr. Lee: And you want us to understand now that we [fol. 4738] should accept your version of the physical condition of this extensive property without any breakdown as to how you arrived at it?

The Witness: Well, I have explained the elements which I gave consideration to and the conclusion I arrived at.

Mr. Lee: No, but you give us no means whereby we can test your consideration; there is no breakdown.

The Witness: I do not think I am able to.

Mr. Lee: Well, there isn't any breakdown, we can agree on that, can't we?

The Witness: That is correct.

Mr. Lee: Now, did you limit your depreciation to obvious depreciation which could be rectified by repair, for example, or repainting?

The Witness: Oh, no.

Mr. Lee: You didn't consider that?

The Witness: I considered it, but I went beyond that.

Mr. Lee: Well then, you want us to understand that outside of any depreciation that was obvious to the eye, that you fixed a certain amount for that and then you added in additional to cover any depreciation due to obsolescence, to age, to use or to depreciation that was unable to be determined by observation?

The Witness: In effect, that is what was done.

Mr. Lee: And what was that percentage?

[fol. 1739] The Witness: For what particular item?

Mr. Lee: For any item. Give us any example.

The Witness: All I can do is pick one of the items to which I applied condition. What item would you like me to pick?

Mr. Lee: Well, I am particularly interested in the service of the Detroit area. Let's take some measuring equipment in the service to the Detroit area. Let's take the regulating station on page 4. Now, you have got on page 4, Detroit regulating station, 1937-40, condition of structure, 97.7 percent; equipment, 96 percent. Is that right?

The Witness: That is right.

Mr. Lee: Now, tell us. There is 2.3 percent off from the hundred, isn't there? That is the average that was taken off the structures at that location?

The Witness: That is right.

Mr. Lee: Now that comprehends quite a considerable structure, doesn't it?

The Witness: There are a number of structures.

Mr. Lee: And this percentage comprehends them, doesn't it?

The Witness: It does.

Mr. Lee: So you want us to take your word for it that upon those structures, the present condition as against 100 percent is off 2.3 percent. You don't give us any break-  
[fol. 1740] down as to how you arrived at the 2.3 percent.

The Witness: I explained the things which I gave consideration to and the 97.7 is that result.

Mr. Lee: No, but what you gave consideration to is all in the back of your mind. You don't tell us what percentages or how you arrived at it. This is just your "ipse dixit", you arrived at it and that is so?

The Witness: It is a result of my considered judgment.

Mr. Lee: I know, but I have a right to explore how you arrived at it.

The Witness: And I have explained it.

Mr. Lee: No, but you still don't tell us how you can break it down, do you?

The Witness: I don't think you can break it down because there are no mathematical conclusions involved.

. . . . .

[fol. 1741] Mr. Goodman: I do have another question. I want to know if salvage is a factor in your present condition, or if that is excluded?

The Witness: I took salvage into consideration in arriving at my percent condition, yes.

Mr. Goodman: That does not answer my question. What I want to know is, whether you excluded it as a factor in your percentage, or if it is somehow included in the percentage?

The Witness: The effect of it is included in the percentage.

Mr. Goodman: By what manner or method? In other words, what is the percent condition of an article ripe for salvage?

The Witness: May I hear that question?

Mr. Goodman: What is the percent condition of an article ripe for salvage?

The Witness: Its percent condition is the salvage value.

[fol. 1742] Mr. Goodman: So that to the extent your percentage speaks of value, it contains the residual salvage value, is that right?

The Witness: Yes, it does.

Mr. Goodman: Now, I have some difficulty, and maybe you can help me in reconciling a concept of value with a concept of percent condition.

The Witness: My percent condition does express the value percentage-wise, in my opinion.

. . . . .

Mr. Littman: Mr. Haberly, when you find a compressor station structure or a measuring and regulating station structure or any equipment that is referred to in Exhibit 82 in 90 percent condition, does that mean that 10 percent of the life of the property has expired and that 90 percent of its life remains?

The Witness: No, sir.

Mr. Littman: Does it mean that 10 percent of its value has depreciated and 90 percent of its value remains?

The Witness: That is the result I am trying to express in my percent condition.

. . . . .

[fol. 1743] By Mr. Porritt:

Q. Mr. Haberly, have you been asked by the company to prepare an estimate of the cost of reproduction new of the plant and property of the Michigan Gas Transmission Corporation as of June 30, 1941, exclusive of working capital, materials and supplies, cost of developing business or going value?

A. I was.

Q. Did you prepare such an estimate?

A. I did.

Q. I hand you herewith an exhibit entitled "Michigan Gas Transmission Corporation, Reproduction Cost New of Plant and Property as of June 30, 1941, exclusive of Working Capital, Materials and Supplies, Cost of Developing Business or Going Value," and ask you if this was prepared by you, or under your supervision?

A. It was.

. . . . .

(The Document Referred To Was Marked Exhibit No. 83 [fol. 1744] For Identification.)

Q. Will you explain, generally, the method by which this exhibit was prepared?

Mr. Littman: Just a minute, I want at this time to object to any testimony with respect to this exhibit for the reason that it states, on its face, that it is an estimate of reproduction cost new of plant and property.

The reasons for my objection have been stated from time to time on this record, if your Honor please. I want the record at this time to show an objection to this testimony, as well as to this exhibit.

Mr. Lee: Your Honor, on behalf of the Petitioner, City of Detroit, in these proceedings, I should like to make the same objection as made by counsel for the Commission, Mr. Littman.

Trial Examiner: I will ask you, Mr. Porritt, to confine the questions you will be permitted to ask to the content of the exhibit by way of general description and a statement of what the witness has done in the preparation of this proposed exhibit, irrespective of what the title page may show as to its substance, but do not, please, ask questions which involve testimony from the exhibit itself.

[fol. 1746] Q. Mr. Häberly, will you explain, generally, the method by which this exhibit was prepared?

A. The method used in determining the reproduction cost new of the plant and property of the Michigan Gas Transmission Corporation as of June 30, 1941, has been by the application of specific indexes of equipment, materials, labor, and other costs to the original costs of the company's property as obtained from an analysis of the company's records.

Q. The cost of reproduction new, as shown in this exhibit, is the amount in dollars necessary to be expended in order to reproduce the existing plant under the original conditions of construction and predicated upon the same contingencies as were actually encountered in its construction.

Trending by means of index numbers, developed especially with reference to the particular property, involves little or no estimate of labor performance other than a reflection in the index numbers of improvements in methods of construction. Trending does not involve percentage

allowances for warehousing, loss and breakage, supervision, use of tools and equipment, or contingencies.

[fol. 1747] These items are a part of the original cost which constitutes the inventory of dollars to which the indexes are applied.

Q. Will you please state the original cost to which you applied indexes in the manner just described and, likewise, the resulting reproduction cost as of June 30, 1941?

A. Those figures are shown on page 11 of Exhibit 82.

. . . . .

[fol. 1752] By Mr. Porritt:

Q. Mr. Haberly, I see by examination of Page 11, that you have included amounts for organization, which is Account Number 301, in the sum of \$10,333; also an amount for Miscellaneous Intangible Plant, Account Number 303, in the amount of \$73,667; for Land, which is Account No. 351.1, in the amount of \$26,146; and for Land Rights, which is Account Number 351.2, in the amount of \$241,467.

These amounts, as shown on Page 11, are identical with the original costs of the same items except that they have been rounded off to even dollars. Were these figures subject to the application of indexes?

A. No. The items of Organization, Miscellaneous Intangible Plant, Land, and Land Rights are as furnished to me by the company and are included in this exhibit at their original cost and no trending was applied to them.

Q. You stated that the indexes which you developed with especial reference to this property were applied to an analysis of the company's records. Will you describe what this analysis consisted of?

A. Yes. In order to properly apply the indexes to the various elements of the property, it was necessary to analyze company records, including property records, construction ledgers, vouchers, bills, contractors' final estimates, and payrolls.

The character of the analysis was designed to obtain original costs in such form as to permit the application of the indexes to the individual items of property installed in the various years.



In other words, in order to trend a main compressor, it was necessary to obtain its original cost, and the date of its installation. The analysis which was made also covered the determination of unit costs of pipe per ton, labor per hour or per foot of pipe, and such other unit costs as were necessary for our trending purposes.

Q. Will you explain briefly the sources from which you obtained the data necessary for the development of the indexes?

[fol. 1754] A. The data for the development of the indexes were obtained from manufacturers of the equipment and machinery used on this property, from current price quotations as shown in trade publications, from catalogs and price lists and from contractors, and were checked, wherever possible, with the trend of actual costs as incurred during the construction of the property.

The index data covering building materials and labor were weighted in proper proportion to reflect the trend of construction costs in place. By that I mean that the basic indexes of cement, sand, stone, lumber, reinforcing steel and labor were so combined as to result in a trend of reinforced concrete in place.

With regard to the indexes of equipment, those for the principal items of equipment, namely, the main compressor units and auxiliary engines, were computed from the actual prices which have been paid for such equipment by the Michigan Gas Transmission Corporation.

The trends of other items of equipment were based on information from manufacturers, secured especially for this work or from data which we carry currently in our files.

The indexes for steel pipe were developed after analyzing vouchers showing the prices which have actually been paid by this company and from a consideration of information relative to the price at which pipe could have been [fol. 1755] purchased as of June 30, 1941.

Indexes for the installation of mains and laterals were based upon the relation of actual costs of construction to recent construction costs, as well as a consideration of current bids for the installation of comparable sizes of pipe in

comparable territory. Some of the mains were laid in 1930 and 1931.

Present-day methods of installation of mains and present-day construction equipment represent considerable improvement over those used in 1930 and 1931 and, in developing the indexes for application to installation costs of those years, recognition was given to this fact.

In other words, the reproduction cost of mains, as included in this exhibit, covering the construction done during 1930 and 1931 represents a present installation cost using modern methods and modern construction equipment.

Q. Now will you outline very briefly the contents of Exhibit 83, which is your reproduction cost new of plant and property of the Michigan Gas Transmission Corporation as of June 30, 1941, exclusive of working capital, materials and supplies, cost of developing business or going value?

Trial Examiner: Please omit from your answer, Mr. Haberly, any statement of your conclusions.

The Witness: Yes.

The exhibit consists of 64 numbered pages and several [fol. 1756] unnumbered pages and contains, first, a letter of transmittal; next, a table of contents; and then, starting with Page 1 and continuing through Page 7, sets forth my education and experience in much the same manner as I have given it verbally in my testimony.

Page 8 through Page 10, inclusive, states the purpose of the exhibit and the methods used in its preparation.

Page 11, which I have previously referred to in my testimony, shows a summary by accounts of the reproduction cost at June 30, 1941, with the corresponding original costs shown opposite each account.

Page 12 is a reconciliation of the original cost and the reproduction cost, both as of June 30, 1941, reflecting changes due to reclassification as well as setting forth the amounts of transfers, adjustments and other items which were not analyzed by me in my development of the necessary original cost figures for trending purposes.

It can be seen at the foot of column 2 that the items not analyzed total \$46,779 as compared to \$12,356,105, which was analyzed. The amount not analyzed represents somewhat less than one-half of one percent of the total original cost.

Then, starting on Page 13, there is shown a summary of the reproduction cost of Account 352.1, Compressor Station Structures and Improvements, which is followed on Pages 14 to 25, inclusive, with the details by locations by years:

[1757] On Page 26 is shown the reproduction cost of Account 352.2, Measuring and Regulating Station Structures and Improvements.

On Page 27 is shown a summary of the reproduction cost of Account 352.3, Other Transmission System Structures and Improvements, which is followed on Pages 28 to 30, inclusive, with the details by locations by years.

On Page 31 is shown the summary of reproduction cost of Account 353, Mains, and on Pages 32 to 37, inclusive, the details by years are shown.

On Page 38 is shown the summary of reproduction cost of Account 354.1, Compressor Station Equipment, which is followed by details by location by years running through to Page 58.

Page 59 shows the reproduction cost of Account 354.2, Measuring and Regulating Station Equipment, and Pages 60 to 64, inclusive, show the reproduction cost of general equipment such as office furniture and fixtures, transportation equipment, stores, equipment, and tools and work equipment, some parts of which were not subjected to trending because of the smallness of the amount involved and also because of the multitude of items included in the various groups.

Trial Examiner: You have made reference at several points in both Exhibits 82 and 83 for identification, to certain account numbers. To what system of accounts are you referring?

The Witness: As I understand it, those account numbers are the Federal Power Classification.

[fol. 1758] Q. Mr. Haberly, have you prepared an exhibit applying to the reproduction cost new as set forth in Exhibit No. 83 condition percents as determined by you in Exhibit 82, by Mr. Lehn in Exhibit 80 and by Mr. Riddle in Exhibit 81? A. I have.

Q. I show you an exhibit marked "Michigan Gas Transmission Corporation—Reproduction Cost New Less Depreciation as of June 30, 1941 (Exclusive of working capital; materials and supplies, cost of developing business, or going value)", and ask you if this was prepared by you or under your direction? A. It was.

(The document referred to was marked Exhibit No. 84 for identification.)

[fol. 1759] Mr. Littman: Mr. Examiner, in order to keep the record straight, we at this time note an objection to the exhibit in so far as it relates to reproduction cost new and reproduction cost new less depreciation and object to any and all testimony with respect to reproduction cost and with respect to this exhibit.

Mr. Lee: In behalf of the Petitioner, your Honor, I desire to make the same objection as stated by the Commission counsel, Mr. Littman.

[fol. 1760] Mr. Baldridge: Might I ask, Mr. Examiner, whether these objections made to this proposed Exhibit 84 go to the matter of condition percent; in other words, the percentage of depreciation?

Mr. Littman: You already have those condition percent in your Exhibit No. 82, in part, and I think, in Exhibit 81.

Mr. Baldridge: Yes, that is true, Mr. Littman.

Mr. Littman: So that your column in Exhibit 84 labeled "Percent Condition" is purely a duplication of what is already included in three previous exhibits, is it not?

Mr. Baldridge: This may be a situation in which it might help to clarify the record, if I may state the position I think you are taking, that you are not objecting to the

testimony on condition percents but only to any figures which tend to show the reproduction value new.

Am I correct in stating your position correctly for you?

Mr. Littman: I will state at this time we are not making any objection to the testimony respecting condition percent or percent condition, but our objection goes to reproduction cost new and goes to reproduction cost new less depreciation.

[Vol. 1761] Mr. Baldrige: Yes. Is that your position, too, Mr. Lee?

Mr. Lee: Yes, sir.

Mr. Baldrige: Thank you.

Trial Examiner: I think it was made clear in the consideration of objections to other pending exhibits that the Petitioner and Commission counsel, I believe both, recognized that the defendant company is entitled to introduce the evidence of depreciation but is objecting to the depreciation estimated on a basis of reproduction new.

Mr. Lee: That is right.

[Vol. 1762] By Mr. Porritt:

Q. Mr. Haberly, will you briefly describe this exhibit?

A. Page 1 of the exhibit is a summary showing, in two adjacent columns, the reproduction cost new as of June 30, 1941, and the reproduction cost new less depreciation as of the same date.

The reproduction cost new is the same as that shown in Exhibit 83 for the total gas plant property exclusive of working capital, material and supplies, cost of developing business or going value.

On Pages 2 through 8, the condition percents as determined in my Exhibit 82, have been applied to the structures, measuring and regulating station equipment and general equipment. Condition percents as determined by Mr. Riddle and as set forth in Exhibit 81 have been applied to the mains and the condition percents as determined by Mr. Lehn set forth in Exhibit 80 have been applied to compressor station equipment exclusive of the cooling towers



and the elevated water tanks. Condition percents for these last two items were determined by me as shown in my Exhibit 82.

This exhibit, that is, Exhibit 84, is nothing more than a bringing together of the condition percents as determined by Mr. Riddle, Mr. Lehn and myself and applying them to [fol. 1763] the reproduction cost now as set forth in Exhibit 83.

Mr. Lee: Would those condition percents have the same application, as far as the percentage is concerned, to original cost as they do to reproduction cost?

The Witness: They would, for all practical purposes.

However, if conditions for individual items were applied to the original cost figures in the same manner as they have been in Exhibit 84, the over-all resulting condition percent would be slightly higher, due to the fact that the property having the lower conditions has the lower original cost and thus these low conditions would receive somewhat less weight.

Such change would, however, be negligible.

Mr. Littman: Mr. Examiner, in view of that statement, I would like to state that we have no objection to the percent condition figures shown in the column in this exhibit labeled, "Condition Percent."

By Mr. Porritt:

Q. What are the percent conditions by accounts?

A. For organization, Miscellaneous Intangible Plant, Land and Land Rights—100 percent;

For Pumping Station Structures—96.38 percent;

For Measuring and Regulating Station Structures—[fol. 1764], 94.72 percent;

For Other Transmission System Structures—93.22 percent;

For Mains—97.79 percent;



For Pumping Station Equipment—96.72 percent;

For Measuring and Regulating Station Equipment—92.77 percent;

For Other Transmission System Equipment—98 even;

For Office, Furniture and Equipment—78 percent even;

For Transportation Equipment—71 percent even;

For Stores Equipment—90 percent even;

For Tools and Work Equipment—79 percent; and

For Construction Work in Progress—100 percent, the weighted average of which is—97.47 percent.

Mr. Culton: May I ask a question there.

These percentage items which you have given for the different account numbers, are these weighted figures?

The Witness: They are, sir.

Mr. Culton: In other words, in your Exhibit 84, you have separated the various percentages which together weight into the percentages which you have just read?

The Witness: That is correct.

By Mr. Porritt:

Q. Mr. Haberly, have you seen a proposed exhibit by Mr. Spitznagle using these percent conditions and are they [fol. 1765] correctly stated therein? A. They are.

Q. Mr. Haberly: were you asked to prepare an exhibit setting forth the average age, probable remaining life and estimated salvage value of the short lived property, such as the furniture and fixtures, transportation equipment, stores equipment and the tools and work equipment?

A. I was.

Q. I show you an exhibit labeled "Michigan Gas Transmission Corporation, Average Age at June 30, 1941, Estimated Remaining Life and Estimated Salvage Value of Short Lived Property", and ask if this was prepared by you or under your direction? A. It was.

(The document referred to was marked Exhibit No. 85 for identification.)

. . . . .

[fol. 1766] A. The exhibit shows, opposite the various classes of short-lived property, first, the original cost of such short-lived property; second, the condition percent; third, the average age at June 30, 1941; fourth, the estimated remaining life as of the same date; and fifth, the estimated salvage in dollars. With the exception of the original cost and the average age, all of the figures are judgment figures.

Q. Are the percent conditions as shown in this exhibit, the same as you determined in Exhibit 82, labeled "Accrued Depreciation"?

A. They are. However, as can be seen from the exhibit, a separate condition percent is shown for the computing and adding machines under the general heading of "Furniture and Fixtures" and four separate condition percents are shown for the four classifications of Transportation Equipment.

These percent conditions are from the details by which the condition percents as shown in Exhibit 82 were built up and are, therefore, a further breakdown of the conditions as shown in Exhibit 82.

Only such property has been included in the calculations in this exhibit as will, in my opinion, have average lives of less than 25 years.

. . . . .

[fol. 1767] Mr. Littman: Mr. Haberly, I would like to ask whether the amounts that you have included under the caption, "Salvage Value" are the amounts that might be expected to be recovered by way of salvage today?

The Witness: Yes, I believe that that would be the salvage which could be obtained today.

. . . . .

The Witness: I may have answered the previous question incorrectly. The salvage value shown in the last column is the salvage value which I estimate could be received at the end of the remaining life.

That is, in connection with the computing and adding machines, four years hence.

. . . . .

[fol. 1791] Trial Examiner: Consideration will be given at the proper time.

May I call your attention, gentlemen, at this time to page 1251 of the transcript in which you may recall the motion to strike the testimony with reference to reproduction cost and to exclude the proposed exhibits offered by Panhandle Eastern relating to reproduction cost and collateral subjects. The objection was pending and the Trial Examiner invited a statement from the attorneys for the Panhandle Eastern.

We have gone far enough in the record now with reference to the Michigan Gas Transmission Corporation so that I desire now to request counsel for the Michigan Gas Transmission Corporation at the proper time to make some statement in the record and I am quoting from the statement I made when the matter was before you at that time, shown in the transcript at page 1251.

I would like to have you point out on the record what peculiar facts are present in this particular proceeding as it affects your company which would take this proceeding,—as it affects the Michigan Gas Transmission Corporation,—out of that category. Now, the Commission in the case of the Chicago District Electric Generating Company and the opinion of the Commission, after the hearing concerning that company, referred to it in its opinion as a normal proceeding, a normal rate case.

[fol. 1792] You gentlemen representing the Michigan Gas Transmission Corporation were silent when Mr. Wheat was making his statements on this objection and if Commission's counsel have anything to add to what they have said on this question, they will have an opportunity, also, but their statement was quite complete, whereas you gentlemen have not had the opportunity to present such statement as you might wish considered bearing on this matter of the exclusion of reproduction cost, so we will give you an opportunity sometime after today, tomorrow before you rest your case, to make such state-

ment as you wish before there is any ruling. That is merely in order that you may have the fullest opportunity to present your views and make such statement as would differentiate this case.

The references to the pages in the record which you have will refresh your recollection as to the considerations which were then stated by counsel and remarked upon by the Trial Examiner.

[fol. 1799] By Mr. Porritt:

Q. Mr. Haberly, have you been asked to prepare an exhibit showing the major items of materials and supplies restated at prices as of June 30, 1941?

A. I have.

Q. Did you make such a calculation? A. Yes, I did.

Q. I show you an exhibit labeled "Michigan Gas Transmission Corporation, Materials and Supplies, Restatement of Cost of Major Items at Prices as of June 30, 1941" and ask you if this was prepared by you or under your direction?

A. It was.

(Document referred to was marked Exhibit No. 87 for identification.)

[fol. 1801] Mr. Littman: We object to Exhibit 87 for the reasons already stated, that this is a reproduction estimate of the materials and supplies on hand, rather than the actual cost of the materials and supplies on hand.

Mr. Lee: Well, but, Mr. Porritt, the point I would like to get clear, I don't want to hold you up, but I think this is of great importance. You have simply repriced the materials and supplies that you had on hand, as I understand it, June 30, 1941, and you have given the original book costs and you have given the repricing cost which, in effect, is the reproduction cost.

Mr. Porritt: But in the working capital structure, Mr. [fol. 1802] Lee, is the amount of money that is necessary,

2

working capital as applied to the materials and supplies. There is a constant turnover and the amount of money that is required in working capital to keep constantly replacing those articles is the amount that is set forth in the last column.

Mr. Lee: Yes, but nevertheless it is predicated upon the original costs thereof as of the same date that you reprice them and I contend that in effect it is subject to the same objections which have been made by counsel for the Commission in which we have joined and we again join in this present objection.

Trial Examiner: Of course, we must all recognize the distinction that the working capital account is not a part of fixed capital.

. . . . .

[fol. 1803] By Mr. Porritt:

Q. Mr. Haberly, will you explain this exhibit?

A. I was furnished a list of the major items of materials and supplies indicating the date of purchase of the various items and the original cost of such purchases. These original costs are shown in the first column of figures as set forth on pages 2 to 8, inclusive, of the exhibit, in each case opposite the description of the material.

I applied indexes to the original costs of the various items in order to restate such original cost in terms of [fol. 1804] cost of June 30, 1941. In several instances no indexes were available reflecting the change in price of individual items, and these items were carried over at their original cost.

Page 1 of the exhibit shows a summary of the materials and supplies which have been restated in terms of present cost. The first column of figures in the summary shows the total cost of materials and supplies per books as of June 30, 1941. The second column of figures shows the book cost of those materials and supplies to which present costs were applied. The third column shows the percentage of the cost of materials and supplies so handled. The last column shows the result of applying indexes to the book costs as shown in the second column.

The exhibit indicates that if \$54,211 worth of materials and supplies, as shown in column 2 on page 1, had been purchased at prices current June 30, 1941, they would have cost \$61,522 or an increase of \$7,311 over their original cost.

[fol. 1805] Mr. Lee: But under that supposition, what you have done is that you have valued that simultaneously as of June 30, 1941, valued it for the original cost simultaneously with the advance cost.

The Witness: I have applied an index to the original cost so as to restate that original cost at present cost, yes, sir.

Mr. Lee: So, in effect, the characterization of your second column is original cost which, in effect, amounts to carrying out the same theory of reproductive cost in your other exhibits.

The Witness: It does state the cost of replacing the item as of June 30, 1941.

[fol. 1807] Mr. Culton: I think probably I can clarify one or two things. These items and the totals of which are shown on the first column on page 1 are all items which are not in the plant account, are they not?

The Witness: That is correct.

Mr. Culton: They are all excluded from the ordinary plant account?

The Witness: They are carried as materials and supplies.

Mr. Culton: And none of it has gone into the physical construction of the line? None of these items?

The Witness: It had not gone in as of June 30, 1941.

Mr. Culton: Now, you did not attempt to determine the present cost of all material of that type, did you?

The Witness: No, only 58 percent of it, larger items.

Mr. Culton: Then, to get what the present value would be of all of the materials and supplies, you would have to



add the difference in the cost of that 58 percent to the total shown in the first column, would you not?

The Witness: Yes, that is correct.

[fol. 1809] Trial Examiner: Are there any questions by way of cross-examination at this time?

Mr. Littman: Yes, I have one or two.

Mr. Haberly, what is the amount that you are claiming here for materials and supplies? Which one of these figures are you relying on? I would like to have the amount.

[fol. 1810] The Witness: I think that the use that is going to be made of this figure is to take the \$93,413 shown on page 1 of Exhibit 87 and add there to the difference between column 4 and column 2, which is \$7,311, which will result in total materials and supplies of approximately \$100,000.

Mr. Littman: A sec. Well now, one question about this broken valve that you and Mr. Lee discussed a moment ago. When that broken valve is replaced, at what amount is it replaced or at what cost is it replaced insofar as the plant accounts are concerned?

The Witness: It would probably go into the plant account at the cost at which it stands in materials and supplies if any change is made in the property account by virtue of the replacement.

Mr. Littman: You mean at the original cost?

The Witness: Yes.

[fol. 1811] Mr. Littman: May I ask one question?

You used the term "original cost" in a number of your exhibits, Mr. Haberly. Are you referring there to book cost?

The Witness: Yes.

Mr. Littman: That is, there are no changes from the costs as they appear on the company's books?

The Witness: As I have obtained the figure from the books of the company myself or as it has been furnished to me from the books.

FRED A. SPITZNAGLE was called as a witness on behalf of Michigan Gas Transmission Corporation and being first duly sworn, was examined and testified as follows:

By Mr. Porritt:

My name is Fred A. Spitznagle. My business address is 327 South LaSalle Street, Chicago, Illinois.

[fol. 1812] Q. By whom are you employed and in what capacity?

A. Central Service Corporation, in the capacity of an accountant.

Q. Has Central Service Corporation been employed to advise and assist in the preparation of the data and evidence submitted by Michigan Gas Transmission Corporation in this case? A. They have.

Since attending high school for a period of about three and a half years, I have been continuously employed, except for a period of about two years, for 28 years in the public utility industry.

During this entire period I have been a student of all phases of accounting and taxation relating to the public utility industry.

During the period 1911 to 1918, I was employed by the Springfield Gas & Electric Company, Springfield, Illinois. When leaving this company I was chief clerk of the customers' accounting and complaint departments.

During the period 1918 and 1919, I attended the United States School of Military Aeronautics at the University of Illinois. I was commissioned a Second Lieutenant in the United States Air Service in August 1918. I resigned my [fol. 1813] commission in July 1919 after service in France.

During a period in 1919 I was employed by the Rockford Interurban & Street Railway Company in the capacity of assistant cashier.

During the period 1919 to 1924, I was employed in the capacity of auditor by the Indiana Power Company, Consumers Power Company and Knox and Sullivan County Light & Power Company, associated companies all operating in the same general territory in the State of Indiana.

During the period 1924 to 1937 I was employed as an accountant in the system of Utilities Power & Light Corporation, performing under the direction of a senior accountant or financial officer a large number of the duties hereafter detailed by me except the giving of testimony at hearings before the Federal Power Commission or State Public Utility Commissions.

During the period 1938 to date, I have been employed by Central Service Corporation to advise with and assist the management of client utility companies, counsel for the said companies and the management and other specialized departments of Central Service Corporation on the following matters, including the giving of testimony regarding financial and other fact statements prepared by me or under my supervision at hearings before the Federal Power Commission, Securities and Exchange Commission and other Government authorities:

[fol. 1814] General and commercial accounting practices; accounting procedures and methods; applications to the Federal Power Commission for sale of electric utility property; original cost studies required pursuant to order of the Federal Power Commission; Federal Power Commission annual reports; registration statements filed with the Securities and Exchange Commission for the sale of securities; annual periodical reports, applications and declarations prescribed by the Securities and Exchange Commission pursuant to the Securities Act of 1933 and 1934, and the Holding Company Act of 1935; applications to State authorities under State Blue Sky laws and to qualify securities as investments for savings banks and other State institutions; Federal and State tax returns, deficiency and other tax assessments and prosecution of protests to said deficiencies and other tax assessments;

financial statements and studies of the past, current and future operating results, fixed capital expenditures, working and other capital requirements.

Q. Have you prepared or had prepared under your supervision for introduction in this proceeding a number of exhibits? A. Yes; I have.

Q. Were such exhibits prepared from the books of [fol. 1815] account and records of the Michigan Gas Transmission Corporation?

A. They were so prepared and were based on explanations furnished by officers of the company, but no detail audit was made by me or anyone employed under my supervision of the books of accounts and records of the subject company.

Q. In your subsequent testimony regarding the exhibits your answers to the two preceding questions will relate to each such exhibit insofar as such exhibits contain information taken from the books and records of the subject company unless otherwise stated by you?

A. That is correct.

Q. Mr. Spitznagle, I hand you an exhibit entitled "Comparative Balance Sheet Per Books." Does this exhibit correctly show what it purports to show?

A. It does.

---

(Document Referred To Was Marked Exhibit No. 88 For Identification.)

---

[fol. 1816] A. Exhibit No. 88 shows as at December 31, 1936 to 1940, inclusive, and as at June 30, 1941 condensed balance sheets containing classified assets and liabilities of the Michigan Gas Transmission Corporation.

The assets are shown on page 1 and the liabilities on page 2.

Q. Referring to the item on page 1, classified as "Contractual Loans in Aid of Construction Made to Customers," what does this item represent?

A. Such item represents repayable loans which were made by Michigan Gas Transmission Corporation to distribution customers to extend the customers' natural gas service, thereby increasing gas sales of the Michigan Gas Transmission Corporation.

Q. You meant distributing customers, did you not?

A. That is correct, distributing customers.

Q. Referring to the item on page 1, classified as "Accounts Receivable, Customers' Service, etc.," what, besides receivables due from customers of Michigan Gas Transmission Corporation is contained in this item?

A. Michigan Gas Transmission Corporation under its transportation contracts with Panhandle Eastern bills and collects for gas delivered to customers of Panhandle Eastern, therefore, the amount due from such customers [fol. 1817], of Panhandle Eastern and payable to the latter is included for convenience in this item with an offsetting amount classified on page 2 as "Accounts Payable, Panhandle Eastern Pipe Line Company."

In addition, the amounts shown include minor other receivables, small amounts of expense advances and small loans and receivables due from employees.

Q. Referring to the item on page 1 classified as "Preliminary Survey and Investigation Charges," what does this item represent?

A. This item represents expenses incurred when investigating the feasibility of construction projects. When the project is approved and started, the amounts so classified are eventually classified in "Utility Gas Plant."

Q. Referring to the item on page 1 classified as "Deferred Sales Promotion Expense," what does this item represent?

A. The amount of \$56,167 in the column headed "1937" represents grants made to distributing customers of Michigan Gas to assist such customers in meeting the expense of changing over from artificial to natural gas.

The amount of \$3,374.07 appearing in the column headed "1939" represents Michigan Gas Transmission Corporation's portion of a like grant made to a Panhandle Eastern customer.

These items were charged to expense in the respective years 1938 and 1940.



[fol. 1818] Q. Referring to the item on page 1 classified as "Contingent Sales Promotion Expense." What does this item represent?

A. This item as set up on the books of the company is offset by the item on page 2 classified as "Contingent Liability for Conversion Costs—Contra." It is so treated as a convenience in keeping a record of items of this character which may become actual liabilities in the future. This item alludes to certain contractual discounts provided to assist distributors of natural gas.

Q. Referring to the item on page 1 classified as "Other Deferred Debits," what does this item represent?

A. The amount of \$9,902.47 in the column headed "1937" represents legal expense in connection with contracts for delivery of natural gas to Ann Arbor, Michigan of \$8,849.09 of which a portion was charged to expense in a subsequent period and a portion billed to Panhandle Eastern. The balance of \$1,053.38 represents the cost of installing drips on transmission mains and was subsequently transferred to "Gas Utility Plant."

The amount of \$18,042.29 in the column headed "1938" represents legal expense of \$12,875.58, including the aforesaid \$8,849.09 in connection with the contract for delivery of gas to Ann Arbor. The entire amount was subsequently treated as previously explained.

[fol. 1819] The balance of \$5,166.71 represents expenditures incurred for measuring equipment and grading and so forth at compressor station site which was subsequently charged to "Utility Gas Plant."

Q. Now, referring to the item on page 2 classified as "Contingency Reserves", for what purpose was this reserve provided?

A. This reserve was provided to take care of possible additional assessments for Federal income tax for the years 1934 to 1939, inclusive, and interest thereon, based on deficiencies proposed by the Bureau of Internal Revenue with respect to some past years.

Q. Referring to the item on page 2, classified as "Other Deferred Credits," what does this item represent?

A. The amount appearing in the column headed "1936, 1939 and June 30, 1941" represents credit balances in auto-



mobile and miscellaneous clearing accounts. In subsequent periods these amounts were credited to like expenses which were cleared to various operating and construction accounts.

In the amounts appearing in the columns headed "1937" and "1938" there was \$553.09 and \$1,711.58, respectively, representing credit balances in the aforesaid clearing accounts and were subsequently treated as explained. The balance of the respective 1937 and 1938 amounts represents an estimated credit that was due Michigan Consolidated [fol. 1820] Gas Company of \$30,006.72 in connection with gas billings for the contract year ended March 31, 1938 and a payment of \$13,013.76 made by Panhandle Eastern for its share of sales promotion expenses subsequently paid out by Michigan Gas Transmission Corporation under contracts to distributing customers.

[fol. 1821] (Exhibit No. 88 Marked For Identification, Was Received in Evidence.)

By Mr. Porritt:

Q. I hand you herewith an exhibit titled, "Earned Surplus Per Books", and ask that that be marked Exhibit No. 89 for the purposes of identification.

(The Document Referred To Was Marked Exhibit No. 89 For Identification.)

A. Exhibit 89 details, by years, for the period March 1, 1926, to June 30, 1944, and for the twelve months ended June 30, 1941, all transactions recorded in the earned surplus account of the company.

The items, as detailed in this statement, I believe, are self-explanatory.

[fol. 1822] (Exhibit No. 89 For Identification Was Received in Evidence.)

Q. Mr. Spitznagle, I hand you an exhibit titled, "Capital Surplus", and ask that this be marked Exhibit No. 90 for purposes of identification.

(The Document Referred To Was Marked Exhibit No. 90 For Identification.)

A. Exhibit 90 shows, for the period March 1, 1936, to June 30, 1941; by calendar years, and the twelve months ended June 30, 1941, all transactions recorded by the company in its capital surplus account.

Q. Under the column headed, "1939", is an amount of \$139,500. What does this item represent?

A. In the year 1939, I understand that the Columbia Gas & Electric Corporation restated on its books its investments in and loans to various companies, and that in [fol. 1823] connection with such restatement waived \$139,500 due from Michigan Gas Transmission Corporation, thereby effecting a contribution to capital of Michigan Gas.

(Exhibit No. 90 For Identification Was Received In Evidence.)

Q. Mr. Spitznagle, I hand you an exhibit titled, "Preliminary Report on Original Cost Studies by Central Service Corporation" consisting of 27 pages, and at this time I would like to have this exhibit marked Exhibit No. 91 for purposes of identification.

(The Document Referred To Was Marked Exhibit No. 91 For Identification.)

Q. What information does your preliminary report on the original cost studies offered as Exhibit 91 show, and is the information submitted sufficient to advise the Federal Power Commission as to the original cost of the Utility Gas Plant of Michigan Gas Transmission Corporation?

[fol. 1824] A. We believe the information submitted is sufficient for the purpose you have just stated in your question.

This report is, to a large degree, self-explanatory, and has been made in accordance with paragraph 2, instructions for gas plant accounts, contained in the Federal Power Commission classification of accounts and prescribed for use by them as at January 1, 1940, but I will run through the report and outline, in a general way, the information it contains.

Pages 1 to 3, inclusive, contain a description of the books and records maintained by Michigan Gas and its predecessor and associated companies, in relation to the cost of the utility gas plant of Michigan Gas Transmission Corporation.

Pages 3 to 8, inclusive, detail the scope of our examination of the original cost studies conducted by the Company along with other related information.

Pages 9 and 10 contain a list of statement submitted in the report, namely, Statements A to I, inclusive.

Statement A, pages 11 to 14, inclusive, contains an outline of the origin and development of Michigan Gas Transmission Corporation.

Statement B, page 15, details for each acquisition by Michigan Gas and its predecessors, the original cost, the cost to the acquiring company, and the amount entered on the books of the acquiring company, of gas utility property acquired as an operating unit.

[fol. 1825] Statement C—none is included because as indicated in the index to these statements, none is required, in that the Utility Gas Plant of Michigan Gas does not contain any amounts arrived at by appraisal.

Statement D, page 16, contains the classified utility gas plant of Michigan Gas at January 1, 1940, and June 30, 1941, both immediately prior to reclassification of such utility gas plant in accordance with the system of accounts prescribed by the Federal Power Commission.

Statement E, page 17, contains a summary of the adjustments, subject to the comments on the bottom of that page, necessary to state as of January 1, 1940, the amount includible in Account 100, Utility Gas Plant.

Statement F, pages 18 and 18a, contains a classified statement of amounts includible in Account 100, Utility Gas Plant, as at January 1, 1940, and June 30, 1941, in accordance with the classification of accounts prescribed by the Federal Power Commission. There is also shown, in summary form, the ascertained overheads included in the original cost of utility gas plant.

Statement G, page 19, contains a balance sheet as at January 1, 1940, of Michigan Gas classified to show the utility gas plant before and after reclassification pursuant to instructions of the Federal Power Commission.

Statement H, page 20, does not contain the information called for but contains an explanation as to why such [fol. 1826] information is not presently available.

Statement I, pages 21 to 27, inclusive, details certain statistical information relative to the gas plant of Michigan Gas at June 30, 1941.

Q. Mr. Spitznagle, when is the original cost study of the Company required to be filed with the Commission?

A. It is required to be filed, pursuant to instructions of the Commission, not later than two years from the effective date of such instructions. The instructions were effective January 1, 1940, therefore the original cost study is due January 1, 1942, or sooner.

Q. Has Michigan Gas completed their original cost study?

A. The original cost study of Michigan Gas Transmission Corporation is not entirely completed, but is very near completion.

Q. Do your investigations indicate that the company's original cost studies, when completed, will coincide very closely with your exhibit No. 91?

A. It is my opinion that it will.

[fol. 1828] (Exhibit No. 91 For Identification Was Received In Evidence.)

[fol. 1837] By Mr. Porritt:

Q. Mr. Spitznagle, I hand you exhibit titled, "Original [fol. 1838] Cost Depreciated", and ask that that exhibit be given No. 92 for the purposes of identification.

Trial Examiner: It will be so marked.

(The Document Referred To Was Marked Exhibit No. 92 For Identification.)

Exhibit 92 shows, in the first column, the classified original cost of Utility Gas Plant of Michigan Gas, as reclassified in our Exhibit 91, "Preliminary Report on Original Cost Studies" and is subject to our comments contained in such "Preliminary Report."

The second column contains the percent condition of the classified utility property as determined by Messrs. Riddle, Lehn and Haberly, engineers employed to make such determination.

The third column shows the original cost amount of the classified items depreciated to the percent conditions shown in the second column.

The fourth column shows amount of observed depreciation for each classified item determined by the difference between the amounts in columns 1 and 3.

[fol. 1839] Q. Mr. Spitznagle, I hand you an exhibit titled "Statement of Contributions Made to Customers for Business Development" and ask that this exhibit be marked No. 93 for purposes of identification.

(The document referred to was marked Exhibit No. 93 for identification.)

A. Exhibit 93 contains the amount of all contributions made prior to the enactment of the Natural Gas Act by Michigan Gas to its customers and those of Panhandle Eastern and to whom Michigan Gas Transmission Corporation delivers gas, and does not reflect any portion of

such contributions made to the same customers by Panhandle Eastern.

At some points in my testimony these contributions are referred to as "grants." This exhibit lists each contribution made during the period 1936 to May 31, 1938, the [fol. 1840] Company to whom made and the amount contributed to the respective companies by Michigan Gas Transmission Corporation.

Q. You mean, Mr. Spitznagle, that all contributions made prior to the effective date of the Natural Gas Act, do you not? A. That is correct.

Mr. Lee: I understand, Mr. Witness, that those contributions have ceased since the effective date of the Natural Gas Act?

The Witness: No, sir, they have not.

Mr. Lee: Why did your exhibit limit them to the effective date of the Natural Gas Act?

The Witness: Because this information is to be used in the rate base of the company and, pursuant to advice of counsel, it is believed that payments made subsequent to the enactment of the Natural Gas Act should not be included.

Mr. Littman: All of this money that you have listed in Exhibit 93 has been charged to the operating expenses of Michigan Gas Transmission Corporation in the past, hasn't it?

The Witness: That is correct. The exhibit indicates that in the heading there.

Mr. Littman: I take it that this exhibit was prepared as the basis for some form of going concern value, was it not?

The Witness: Yes.

[fol. 1841] Mr. Littman: It furnishes a basis?

The Witness: The cost of developing the business.



Mr. Littman: We object to Exhibit 93 for reasons stated at numerous times on the record. It is the basis of a claim for going concern value which is, of course, part and parcel of reproduction cost.

Mr. Lee: On behalf of the Petitioner, City of Detroit, I desire to concur and join in Mr. Littman's objection.

. . . . .

Mr. Porritt: This is money that was actually paid out by the company and as such—

Mr. Baldridge: (Interposing) May I complete that statement?

Mr. Examiner, this was money paid to customers. It was charged to operating expenses. If that had not been done, that additional amount of money would have been available for distribution.

This was all done at a time when the company was not subject to regulation. It was not a public utility and it could earn whatever it wanted and distribute whatever it wanted as it saw fit.

Now, the fact that it has elected to take money which it [fol. 1842] might otherwise have distributed to put it into the development of future business, that should entitle that company to recognition of that fact. That is an actual investment which it made in future business and, if it had not done that, it would not have been able to acquire certain of these contracts and to serve gas in certain communities where it is now being served.

I should restate that a little bit. It would not have been in a position to sell and would not now be selling gas to distributing companies which, in turn, supply their consumers in various communities.

With that in mind, I think that we can fairly say that this particular claim for business development or going concern value—I do not think the term makes much difference—has no relation whatsoever to reproduction value.

It is based on original cost. It is based on actual dollars that were taken out of the company's pocket and put into the pockets of distributing companies for the purpose of

developing its business in the future and without those contributions, it would not have been able to develop that business.

Trial Examiner: Was Mr. Littman correct in assuming that this proposed exhibit is for the purpose of developing some claim for going concern value?

Mr. Baldridge: Going concern value is again perhaps a term we might not use. It is certainly for the purpose of showing what the company has actually spent in developing its business and it is an expenditure that has been made as truly as any expenditure for pipe or for compressor stations.

We do intend to put these expenditures into our rate base. We think we are entitled to do so.

Trial Examiner: Even if they have heretofore been charged to operating expense?

Mr. Baldridge: Let me again make this distinction clear, Mr. Examiner. It seems very clear to us.

We have not attempted to add to this figure any dollars contributed in this way after this company became subject to regulation. Before the enactment and effective date of the Natural Gas Act; a gas company of this kind was just another commercial enterprise and, like an oil company or any other company, it had a right to do as it liked with the money it earned and it could earn as much as economic circumstances and competition and other factors would permit.

Now, these expenses, or these moneys, were spent in those unregulated days, and I submit that there is no reason at all why the company should not now be allowed to add to its rate base something which amounted to an investment at that time.

If it had taken the equivalent amount of dollars out of moneys available for distribution to security holders and invested them in pipe or compressor stations, that would surely have been an element that would have been considered in making a rate today. It would be an actual investment.

[fol. 1844]: Now, this investment was just as actual and just as sound and, I may add, considering the business as a whole, just as necessary.

[fol. 1846] Mr. Littman: The United States Supreme Court, of course, has passed on this subject in the Columbus Gas & Fuel case and the Dayton case, a copy of which opinions I am sorry I do not have with me at present. [fol. 1847] I thought I had copies of those opinions with me in my brief case, but I have not:

But Justice Cardozo, in those cases, rejected this kind of evidence as a basis for a claim for separate allowance for going concern value.

He rejected it on the ground that these costs had been incurred in years gone by and had all been charged to past operating expenses and that this type of proof was insufficient.

The Supreme Court, of course, has, on a number of occasions, refused to make a separate allowance or to permit a separate allowance to be made for going concern value.

This Commission has refused to make a separate allowance for going concern value. What will happen to the decision rendered by the Circuit Court of Appeals in the Natural Gas Pipe Line case, of course, I do not know. It is now pending before the Supreme Court of the United States.

However, I not only believe that this testimony is wholly incompetent as a basis for any claim for going concern value even if going concern value was to be permitted in this case as a separate allowance, because the United States Supreme Court has time and again held that past operating expenses cannot even be used as a guide for the purpose of an inclusion of a given amount as a separate allowance for going concern value, so it is not only incompetent, but it also forms an integral part of reproduction cost.

[fol. 1848] As a matter of fact, Mr. Biddison had a similar study in his Exhibit 39 and was frank enough to refer to it

as "reproduction cost" that is, it was one of the pages in his total exhibit and he frankly referred to it as "reproduction cost."

It is the cost which they would expect a purchaser to pay for their property if it were sold today and if it were reproduced today. It is all a part of reproduction cost as we understand it.

[fol. 1852] By Mr. Porritt:

Q. Mr. Spitznagle, I have an exhibit titled, "Working Capital as of June 30, 1941" and ask that that so-titled exhibit be marked No. 94 for the purposes of identification.

(The document referred to was marked Exhibit No. 94 for identification.)

A. Page 1 of Exhibit 94 shows the reasonable amount of working capital required by Michigan Gas in the conduct of its business by summarizing the information and data detailed on pages 2 to 7 inclusive of this exhibit.

The total amount of working capital thus shown is \$300,147.08 as at June 30, 1941.

Page 2 of Exhibit 94 shows the computation of the \$47,175.05 included in working capital for cash fund operating expenses determined on the basis of the monthly average of certain pro forma operating expenses, for the twelve months ended June 30, 1941, for which working capital was employed for an estimated period of 45 days.

In making this determination, as shown on this page of this exhibit, the cost of purchased gas, amounts charged to income for taxes, amount of prepayments charged to income, and depreciation or amortization charged to income have all been excluded from operating expenses.

Page 3 of Exhibit 94 shows data with respect to the \$100,723.78 included in working capital for material and supplies required to be kept on hand by the Company.

There is detailed on this page the amount invested in material and supplies by the Company at the end of each month plus an estimated amount for future increased cost of a portion of the material and supplies carried on hand.

This information is shown for a period of 18 months ended with June 30, 1941. There is also shown the average amount for the 18 month period and for the last twelve months in said 18 month period.

The amount of estimated increased future costs of material and supplies is based on a determination, made by Francis S. Haberly, Engineer, submitted as Exhibit 87 in this case, of the cost of replacing at June 30, 1941 prices, only 58 percent of the material and supplies on hand at June 30, 1941.

[fol. 1854] It will be noted from the tabulation on this page that the amount of material and supplies on hand at the end of the respective months has increased from \$58,959.83 at January 31, 1940, to \$93,412.78 at June 30, 1941.

Such increase has been due to the need for additional material and supplies to meet the requirements of expanding operations in that period, and the need for protecting the company against the ever increasing difficulty occasioned by the defense activities of our National Government in securing prompt delivery of material and supplies.

Therefore, we estimate that the amount of material and supplies on hand at June 30, 1941, adjusted in part to the cost of replacing 58 percent of such material and supplies at June 30, 1941 prices, represents the amount of working capital reasonably required to be invested in material and supplies.

Page 4 shows a tabulation of the quantity of gas in the line pack of the company, its cost per therm, its aggregate value, the value capitalized and not capitalized, at the end of each month from July, 1940, to June, 1941, and the average amount of said items for the twelve-month period ended June 30, 1941.

Line pack is gas stored in the mains and the amount at the end of any month represents an investment in gas carried on hand.



We have included \$31,406.70 in working capital for line pack which is the average value of such line pack, not capitalized and carried on hand at the end of each month in [fol. 1855] the twelve months period ended June 30, 1941.

Page 5 is a copy of a letter dated September 30, 1941, received by the company from the National Bank of Detroit and signed by Elbert S. Burns, Cashier, which states that the minimum bank balance which it will require of the company in connection with its accounts is \$116,303. We have included this amount in working capital.

Page 6 details, by months, for twelve months ended June 30, 1941, the amount invested by the company in prepaid expense, including the average amount invested during such period. The average amount of \$5,538.55 has been included in working capital.

Page 7 is factual data with respect to the Company's cash position and is presented by months for the twelve months ended June 30, 1941.

It shows that the company maintains eighteen separate accounts in the National Bank of Detroit, the aggregate of the cash balances carried in such accounts, and other pertinent data in support of the minimum cash requirement included in working capital.

[fol. 1860] GEORGE S. YOUNG, a witness, having been previously sworn, resumed the stand, was examined and testified as follows:

By Mr. Porritt:

Q. Mr. Young, have you prepared or had prepared, a statement setting forth the "Estimated Cost of Completing the Work in Progress at June 30, 1941, and Estimated Gross Income to be Derived from the Projects when Completed?" A. I have.

Q. This document which I now show you, entitled "Estimated Cost of Completing Work in Progress at June 30, 1941, and Estimated Gross Income to be Derived from the Completed Projects" is the statement to which you have just referred? A. It is:



(The document referred to was marked Exhibit No. 95 for identification.)

A. Under Column A are listed the various projects [fol. 1861] constituting work in progress as of June 30, 1941.

In Column B are shown the estimates of the total expenditures to be made under each project.

In Column C are listed the total amounts expended under each project at June 30, 1941.

In Column D are listed the estimated amounts required to complete each project after June 30, 1941.

The amounts listed in Column D are differences between those amounts listed in Column B and Column C.

In Column E are listed the estimated increases in gross operating income before depreciation and Federal income tax to be derived from completed projects in the first year after the date of completion.

Mr. Lee: Is this gross income predicated upon existing contractual prices you receive for the delivery of the gas?

The Witness: Yes, it is.

I might add, in connection with that, that the only one of these projects which will reflect an increase in income is that on Line 13, pertaining to the Monroe measuring station.

Mr. Lee: Does this exhibit have any relation to any work in progress incidental to the new contract between [fol. 1862] Panhandle and the Consumers Power Company?

The Witness: No, sir, it does not.

Mr. Lee: That new contract between the Panhandle and Consumers Power Company will enhance your income, won't it?

The Witness: Yes, sir, it will.

Mr. Lee: But that is in no way reflected in this exhibit?

The Witness: It is not, no sir.

Mr. Lee: Then, do we understand that there is no expenditure necessary by your company in order to carry out the requirements of that contract?

The Witness: Yes, I would say that there will be expenditures necessary, but they have not been undertaken as yet.

Mr. Lee: That is what I wanted to get clear. There is no work being done or no expenditures incurred or contracts entered into that will result in expenditures with reference to the Consumers Power contract with the Panhandle Eastern Pipe Line Company?

The Witness: No, sir.

Trial Examiner: However, the proposed Exhibit 95 is a reflection of the status as of June 30, 1941, and not as of today?

Mr. Lee: That is right.

Trial Examiner: Any other questions, gentlemen?

Mr. Littman: Yes, I would like to ask Mr. Young to explain the method whereby he arrived at the figures shown in column E, entitled "Estimated gross operating [fol. 1863] income before depreciation and Federal income tax, to be derived from completed projects."

Can you explain, generally, how you arrived at those figures?

The Witness: Well, in the case of the first item, "Routine minor additions to transmission system property," the item under "B"—\$27,057, is the amount in a blanket budget to cover minor additions to transmission facilities and would not result in any increase in revenue. The \$270 which is marked as a red figure would be the amount of taxes and insurance to cover those additions in property.

Mr. Littman: Will you explain the method whereby you arrived at the balance of the figures in that column?

The Witness: Well, the second item, "Routine minor additions to general property," I think is covered by

Note A at the bottom of the page there, in that the amount of taxes applicable to the additions would be negligible.

That item is intended to cover the additions to the office equipment and furniture, tools and working equipment, which might be purchased and which would not result in any increase in revenue.

The Witness: The third item, \$75,174, is a carry-over [fol. 1864] budget from the 1940 construction of the 24-inch loop pipe line to cover the settlement with the contractor which was not made in the year 1940 and also to cover the installation of concrete gate boxes; which was not done until this summer.

The note at the bottom, with reference to that item and to another item, I think is self-explanatory. The \$750 item represents again the taxes and insurance by reason of this increase in capital from which there is no increase in income.

The explanation of the item on Lines 8, 9 and 10, I think, is the same. It is covered by the note B. The Edgerton compressing station was put into operation in 1940. The work, however, was not entirely completed and the carry-over budget, in the amount of \$25,271 was taken to complete that work.

The next item, the construction of the Bluffton warehouse, again the amount of \$295 represents the increase in taxes and insurance by reason of that construction and there is no income increase as a result of that installation.

The next item covers the construction of the Monroe measuring station to deliver gas for the account of Panhandle Eastern Pipe Line Company. There is an increase of revenue in that case.

As I recall, that amounts to \$7600 and the \$6875 item is the amount after operating expenses of that measuring station and after taxes and insurance.

Mr. Littman: Doesn't the figure that you just named as [fol. 1865] increased revenue by reason of the installation of the measuring and regulating station near Monroe represent an allocation of some kind?

The Witness: No, we are being paid fixed rates for the transportation of gas to Monroe and, on the basis of our

estimate of the delivery for the year after the completion of the station, we can calculate the increase in revenue from that operation.

Mr. Littman: And your working papers show the details of that calculation, do they?

The Witness: Yes, they do.

I might add also, in that connection, that there is a figure included in operating expenses which was deducted from the \$7,600 figure to cover the cost of pumping to this location when the gas is delivered at Monroe.

The next item, construction of the Elwood measuring and regulating station, would result in no increase in income. We have a contract with the Central Indiana Gas Company whereby we were obligated to build additional points of delivery for them.

They asked that we build the Elwood station and it does not mean that we would deliver any more gas to them. Therefore, there would be no increase in income and the \$540 item represents again taxes and insurance.

The last item, installation of two additional units at the Edgerton compressing station will not result in any increase [fol. 1866] in income. Those two units are being installed there so that we can make anticipated deliveries of about 7 million feet per hour to Detroit and, at the same time, maintain the contract pressure when delivering 7 million cubic feet per hour rate which is at a rate of about 168 million cubic feet per day, whereas our obligation to deliver in 24 hours is limited to 125 million.

Mr. Littman: That installation is for the purpose of taking care of an increased load, isn't it?

The Witness: No, sir.

Mr. Littman: It is not?

The Witness: It is not. It is for the purpose of taking care of this high hourly rate of delivery. However, the total in the course of the day will still not be more than 125 million.

Mr. Goodman: In connection with the figures in Column E, do they reflect, in any way, any consideration of savings in operating expenses?

The Witness: No, they do not.

[fol. 1867] Mr. Goodman: Do you have engineering studies under which these particular expenditures are justified?

The Witness: Yes, in the case of the items covered on Lines 5, 6 and 7, 8, 9 and 10, and 13 and 14, we have made calculations to justify those expenditures.

[fol. 1869] Mr. Lee: The exhibit that you have just offered, marked No. 95 for identification has to do, as I understand it, solely with work in progress and partial expenditures thereon, for construction necessary to carry out, in your judgment, existing contracts with customers.

The Witness: Yes, I would say that the one referring to expenditures applicable to construction of Edgerton compressor station, in 1940; the one referring to expenditures applicable to the 24-inch loop line construction in 1940 and the construction of the measuring and regulating station near Monroe and also the construction of the measuring and regulating station near Elwood, Indiana, and also the installation of two additional units at Edgerton compressing station, are in that category.

Mr. Lee: This looping, has the entire line been looped?

The Witness: The 20-inch line extending from the Illinois-Indiana State Line to a point near Zionsville, a distance of approximately 70 miles, has been completely looped with 24-inch pipe line.

At one river crossing, we have put in a multiple river crossing in the loop.

[fol. 1870] By Mr. Porritt:

Q. Mr. Young, have you prepared an exhibit showing the estimated cost to the company of this proceeding going on before the Federal Power Commission? A. I have.

(The Document Referred To Was Marked Exhibit No. 96 for Identification.)

[fol. 1871] Mr. Littman: This is rate case expense. We would like to reserve an objection to this exhibit on the ground that rate case expenses are not to be considered in this case, at least for the purpose of testing the reasonableness of the present rates.

Q. Mr. Young, did the Michigan Gas Transmission Corporation have any extraordinary or abnormal pipe line maintenance during the twelve months ending June 30, 1941?

A. Yes, in the amount of \$4,572.92 to repair and reinforce a steep bank where a slip had occurred.

Q. Was the balance of the amount that was expended for pipe line maintenance during this period expended for ordinary maintenance? A. It was.

Q. Do you anticipate that larger expenditures will be required for extraordinary or abnormal pipe line maintenance during the life of the property? A. I do.

Q. What, in your opinion, constitutes extraordinary or abnormal pipe line maintenance?

A. Extraordinary or abnormal pipe line maintenance includes, in particular, the cost of: repair of large washouts caused by high water and heavy rains; repair of slips; repair of pipe line and river crossing breaks; the cost of applying cathodic protection where the nature of the soil and inspection of the pipe indicates that the pipe is being actively corroded and might corrode to a serious extent if anticorrosive measures are not taken; the cost of lowering river crossing pipe lines where erosion has removed the cover; reinforcing the pipe line near where mining operations have been carried on resulting in sinkage which endangers the pipe line; reinforcing pipe lines through congested areas which have developed since the pipe line was laid.

Q. What, in your judgment, is an annual amount which should be provided to take care of extraordinary and abnormal pipe line maintenance?



A. In my judgment, an allowance of \$30,000 per year for extraordinary or abnormal maintenance of pipe lines, should be provided.

Q. Did the Michigan Gas Transmission Corporation have any extraordinary or abnormal maintenance in compression stations, measuring and regulating stations, and on field equipment during the twelve months ending June 30, 1941? A. No, it did not.

Q. Have any large parts been renewed?

A. No. In view of the fact that the property is quite [fol. 1873] new, the renewal of parts in equipment in compressor stations, measuring and regulating stations and in field equipment has not been substantial.

Trial Examiner: To what line of inquiry were these last questions addressed? I assume that there is no exhibit yet before us that contains the \$30,000 figure just mentioned for extraordinary expenses?

Mr. Porritt: It is an estimate of the maintenance cost that will be used in a pro forma statement.

By Mr. Porritt:

Q. Should any provision be made, in your judgment, for the fact that the cost of renewing parts in equipment will increase?

A. Yes. In my judgment, an allowance of \$8,000 per year should be provided for this purpose, which is \$50,000 per compressor station for a twenty-five year period, a total of \$150,000 for three stations or \$6,000 per year to which has been added \$2,000 per year to cover renewals in measuring and regulating stations and field equipment.

[fol. 1879] Mr. Lee: What justification is there, in your opinion, for the expenditure of \$30,000 a year upon the line from Zionsville to Detroit when there has never been any necessity for such expenditure since the line was built?

The Witness: Well, it is a judgment figure, Mr. Lee.

I think the fact that there have been no breaks in that pipe line does not mean that there will be none. We have

recent cases to cite, the break in the Colorado interstate line and the break in the Chicago pipe line.

[fol.1880] Mr. Lee: But is this true, that in the operation of the Michigan Gas Transmission Corporation since its organization, there has been no amount budgeted of this kind in anticipation of such a condition as you have set forth?

The Witness: No, we have, of course, covered these things by maintenance as we went along.

Mr. Lee: And you have had no maintenance of this kind from Zionsville to Detroit?

The Witness: No, no extraordinary maintenance.

Mr. Lee: That is right, and this possibility of a maintenance has just developed since this rate case started, hasn't it?

The Witness: No, I would say not. That is something—

Mr. Lee: (Interposing) If it is good judgment, sound judgment, to have it now, why haven't you had it set up for the last five or six years, if it is so necessary?

The Witness: We have had it in our account each year for the last five years. That is, it has been included in maintenance.

Mr. Lee: But there has been no extraordinary appropriation of this kind, we will agree on that?

The Witness: No, that is right.

Trial Examiner: What do you mean you have had it in your account for the last five years?

The Witness: Any expenses of this kind have been [fol.1881] included in our maintenance expenditures as shown on our financial statement.

Trial Examiner: You did not then have in mind a budget provision?

The Witness: No, sir.

[fol. 1883] Mr. Littman: I would like to ask Mr. Young some questions.

Mr. Young, do I correctly understand your testimony to be that you are claiming \$30,000 per year for so-called extraordinary maintenance in the future?

The Witness: That is correct.

Mr. Littman: That is, of course, in addition to the annual expenditures that have heretofore been required for maintenance?

The Witness: That is in addition to the amount which will be included in the pro forma statement which will be presented for the twelve month period ending June 30, 1941.

Mr. Littman: Yes. It is an additional maintenance item, isn't it?

[fol. 1884] The Witness: That is right.

Mr. Littman: In addition to the usual maintenance?

The Witness: That is right, in addition to what we have termed "ordinary maintenance."

Mr. Littman: And you are also claiming the sum of \$8,000 per year by way of increased labor cost in making renewals.

Is that a correct statement?

The Witness: That is not \$8,000 for the labor cost but \$8,000 for the cost of material and labor.

Mr. Littman: And when you use the term "renewals," I take it you mean replacement?

The Witness: Yes, I am talking of replacement, such as a piston in an engine.

Mr. Littman: And that \$8,000 per year is being claimed by you as an item of expense?

The Witness: That is correct.

Mr. Littman: In arriving at these amounts, did you follow the Federal Power Commission's Uniform System of Accounts?

The Witness: No, I did not give any consideration to that in arriving at these amounts.

I just set up \$30,000 for pipe lines and \$8,000 to cover the other items mentioned there.

Mr. Littman: And, so far as you know, those items might not all be allowed under the Uniform System of [fol. 1885] Accounts of the Federal Power Commission as items of expense but might be items of capital or classified elsewhere, is that correct?

The Witness: I cannot make a positive statement as to that at the present time.

I think that they would all be maintenance items, though.

Mr. Littman: But you do not know, because you said you did not follow the system of accounts.

The Witness: Yes, and I say that I do not think the system of accounts describes what should go in as maintenance and fixed capital, so far as replacement of an engine is concerned.

That is, replacement of a part in an engine.

Mr. Littman: Well, do you have working papers which show the detailed items that enter into this additional \$30,000?

The Witness: I do not.

Mr. Littman: Can you supply it for our information and examination?

The Witness: It is a judgment figure.

Mr. Littman: How can we check to know whether part of it is or is not properly included under our system of accounts in maintenance or capital?

The Witness: I could probably furnish you a list of items which I think would probably be replaced in engines over a period of twenty-five years, in my judgment.

Mr. Littman: Where did you get this figure from? Did you build it up from detail, or what did you do?

[fol. 1886] The Witness: It is a judgment figure arrived at by discussion, and I might add that I had the benefit

of the experience of another pipe line company to base my judgment on.

Mr. Littman: What pipe line company?

The Witness: I would prefer not to mention the name of it. The figures were furnished to me in confidence.

Mr. Baldrige: It is not one of our companies, Mr. Littman. It is an entirely outside company and we would a little bit prefer not to mention the name unless it is important.

Mr. Littman: Mr. Young, does Michigan Gas Transmission Corporation now have some cathodic protection equipment?

The Witness: We are putting in some cathodic protection equipment at the present time. There was none included, however, as of June 30, 1941.

Mr. Littman: How is that charged on the books of Michigan Gas Transmission Corporation?

The Witness: It will be charged as maintenance.

Mr. Montgomery: Pardon me, Mr. Littman, what kind of equipment was that?

Mr. Littman: Cathodic protection.

Would you capitalize river crossings?

The Witness: Not repairs to river crossings.

Mr. Littman: Suppose an entire river crossing washed out. How would you charge it?

The Witness: I presume that would go to capital.

[fol. 1887] Mr. Littman: Would be charged to capital?

The Witness: I presume so.

Mr. Littman: Would a river crossing repair be extraordinary maintenance?

The Witness: Yes, I would say so. They do not occur every year. We have had no repairs to make thus far to river crossings.

However, I mentioned one possible source of expense in connection with that in my testimony.

Mr. Littman: Is extraordinary maintenance, then, something that does not occur every year?

The Witness: Well, in speaking of the river crossing, it may not occur every year, but some items of extraordinary maintenance are liable to occur every year.

Mr. Littman: The increased cost in the making of renewals would be charged, would it not, as a capital item?

The Witness: No, I do not believe so, Mr. Littman.

Mr. Littman: You are not an accountant, I take it?

The Witness: I am not an accountant.

Mr. Littman: You are not altogether sure about the answer to that question?

The Witness: I am not too sure, although it has been discussed.

Mr. Littman: If your Honor please, I wish to move to strike all of the testimony of Mr. Young on this with [fol. 1888] respect to the item of \$30,000 for so-called extraordinary maintenance and \$8,000 for so-called increased cost in making renewals.

The testimony is so vague, indefinite, and nebulous that we, of course, would have no way whatever of checking its accuracy. We do not know, and neither does this witness, what part of these amounts is chargeable under our system of accounts as maintenance of capital or otherwise.

I think the record is eloquent on the subject that this testimony has absolutely no foundation in fact. It comes from sources which this witness is unwilling to disclose to us.

I think it would be highly unfair to expect the Commission counsel or its staff to be required to check evidence of this kind, so-called evidence.

As a matter of fact, I do not think it is evidence at all, and it has absolutely no evidentiary value. I do not know to what possible use the Commission could put this testimony, not knowing anything at all about its detail or where the items are to be charged and I, therefore, move that this testimony be stricken.



Mr. Lee: On behalf of the Petitioner, your Honor, I desire to join in the objection made by Mr. Littman on behalf of the Commission.

Trial Examiner: The motion is denied.

. . . . .

[fol. 1894] Mr. Baldridge: Isn't it true, in the case of new property, that very little extraordinary maintenance is necessary over the first few years?

The Witness: That is correct.

Mr. Baldridge: And as the property gets older, you need a greatly increasing amount of extraordinary maintenance?

The Witness: Yes, I would say that is correct.

Mr. Baldridge: And isn't that borne out by the investigations you have made into the business and experience of other companies?

The Witness: That is correct, in the business and experience of the other companies whose record on this subject is available to us.

Mr. Baldridge: So that you think you are justified in assuming that, as the property passes beyond the first few years of its existence, the amount of extraordinary maintenance needed will increase considerably?

The Witness: Yes, I do.

Mr. Lee: But these other companies with whom you wish to make comparison had pipe lines of antique construction compared with this modern pipe line, didn't they?

The Witness: No, the pipe line to which we have referred was built in 1929 and the first item of extraordinary maintenance which was recorded was in 1933.

Mr. Lee: But what I am getting at is this pipe line, at least the portion of it from Zionsville to Detroit, was the most modern type of pipe line construction, wasn't it?

The Witness: It was.

Mr. Lee: And it is not comparable with any other type of pipe line unless it is also the most modern, is it?

The Witness: Yes, I would say that.

Mr. Lee: Is there any other pipe line in the country comparable to this pipe line, as far as modern method of [fol. 1896] construction and materials are concerned?

The Witness: Yes, I would say that there is.

Mr. Lee: Built subsequent to this or previous to this?

The Witness: Built previously and subsequently to this.

Mr. Lee: And did you study their records as to extraordinary maintenance?

The Witness: Their records were not available to me.

Mr. Lee: Then the only record that you made comparison with was the record of the pipe line owned by a company which was not comparable to this pipe line.

The records of the companies that owned pipe lines comparable to this one you had no access to?

The Witness: I did not say that the pipe line that I had reference to was not comparable. I think perhaps it is. It is a line, as I stated, that was built in 1929.

[fol. 1898] Mr. Littman: I would like to inquire further, Mr. Young, so that I may understand your method.

Mr. Young: If one pipe length of pipe on the Michigan Gas Transmission Corporation's system is removed and replaced by reason of damage, how is the expense of replacing that length of pipe charged?

The Witness: I will have to refresh my memory on the length of pipe that is put through capital. I cannot answer your question.

Mr. Littman: Can somebody tell us the average length of pipe line on the system?

The Witness: You mean the average pipe length in our system?

Mr. Littman: Yes, 40 feet, isn't it?

The Witness: Forty feet, and some 20 feet.

Mr. Littman: Let's start out with the 20-foot length, now. How would you treat that 20-foot length?

The Witness: I would have to refresh myself as to whether that is put through capital. I think it is, but I would have to check that.

[fol. 1899] Mr. Littman: How did you treat that for purposes of making this estimate which you have submitted of \$38,000?

The Witness: There would not necessarily be any renewal of pipe in the case of a break.

Mr. Littman: You said there was \$8,000 a year for renewals of pipe.

The Witness: No, I said renewals of parts in compressor stations, measuring and regulating stations, and in field equipment, working equipment.

Mr. Littman: How about the \$30,000 for extraordinary maintenance? That includes pipe, doesn't it?

The Witness: That includes breakage in pipe, as I mentioned here, repair of pipe line and river crossing breaks.

Mr. Littman: Well, how do you treat a 20-foot break?

The Witness: Well, I do not consider that we would have to replace any pipe necessarily in repairing a break. If the pipe should pull out a coupling, that same piece of pipe could be used in the repair. That is, the same pipe would again be joined.

Mr. Littman: How would you repair it?

The Witness: Well, in the case where it pulled out of a coupling—

Mr. Littman: (Interposing) You do not then anticipate any pipe breakages?

The Witness: There may be material failures of pipe, yes.

Mr. Littman: Well, with \$30,000 a year for breaks alone, [fol. 1900] you would have to have a good many leaks to

take up all of that with leak clamps, wouldn't you? That would buy a lot of leak clamps, wouldn't it?

The Witness: Yes, it would buy a lot of leak clamps but I am mentioning a lot of items to make up that amount, repair of slips, repair of river crossing breaks.

Mr. Littman: How much of it is breaks in pipes and river crossings, and how much of it is not?

The Witness: I cannot state that.

Mr. Littman: You cannot state that?

The Witness: I do not know.

Mr. Littman: Well, suppose we have a 40-foot pipe length that goes out by reason of an extraordinary damage. How would the cost of replacing that pipe be handled?

The Witness: May I check that up and answer at a later date? I am not in a position to do that just now.

Mr. Littman: You do not know that now?

The Witness: I do not at this moment.

Mr. Littman: You did not know that when you made up this estimate?

The Witness: That was discussed at the time we made up the estimate. I do not remember it.

[for 1901] Mr. Littman: Did you inquire into the accounting practice of those other companies or another company, with respect to what is charged to maintenance and what is not charged to maintenance?

The Witness: No, but they had listed items of abnormal maintenance, and I assumed that those items listed on the sheet which I had access to were not put through capital.

Mr. Littman: You made no investigation to ascertain whether that company to which you just referred, was following the Federal Power Commission's system of accounts, did you?

The Witness: No, I did not.

Mr. Littman: Now, Mr. Young, I am going to read from Page 23 of the Federal Power Commission's Uniform System of Accounts prescribed for natural gas companies subject to the provisions of the Natural Gas Act, Account No. 141—Extraordinary Property Losses under the title of Deferred Debits.

[fol. 1903] I want to read this particular account and then I am going to ask him a question about it. I read from this account:

"A. This account shall include, when so authorized or directed by the Commission, losses in service value of property abandoned or otherwise retired from service which are not provided for by the depreciation or other reserves and which could not reasonably have been foreseen and provided for. It shall include also, when so authorized or directed by the Commission, extraordinary losses, such as unforeseen damages to property which could not reasonably have been anticipated and which are not covered by reserves or by insurance."

[fol. 1910] Mr. Baldrige: May I ask a preliminary question, Your Honor, which may serve to shorten it a little bit?

Mr. Young, are you now in a position to state what natural gas company you are referring to in making up your judgment figure?

The Witness: Yes, the Memphis Natural Gas Company.

Q. That company is in no way associated or affiliated with Michigan Gas Transmission Corporation?

A. Not to my knowledge.

Q. And the information was received how?

A. The information was received by me through Mr. O. H. Simonds of the Central Service Corporation, which corporation has been retained in this case.

[fol. 1911] ROBERT S. DREW was called as a witness on behalf of Michigan Gas Transmission Corporation and being first duly sworn, was examined and testified as follows:

By Mr. Porritt:

Q. Mr. Drew, will you state your name and address?

A. Robert S. Drew, 231 South LaSalle Street, Chicago, Illinois.

Q. What is your present position, Mr. Drew?

A. Vice president of Continental Illinois National Bank & Trust Company of Chicago, in charge of the investment [fol. 1912] division of the trust department, responsible for development of general investment policies for supervising the buying and selling of securities, the analysis of securities, examination of trust account portfolios and for consultation on investment with ~~customers~~ of the trust department.

I graduated from the University of Wisconsin with a degree of Bachelor of Science and Civil Engineering in 1913.

From 1913 to 1917 I was assistant engineer with the firm of Sloan Huddle, Feustel & Freeman of Madison, Wisconsin.

In 1918 I was at the Field Artillery Officer School at Camp Taylor, Kentucky, and remained there as an instructor.

From 1919 to 1920 I was in the bond department of the Illinois Trust & Savings Bank in Chicago as a salesman.

From 1921 to 1926 I was supervising engineer with the Business Research Corporation of Chicago, industrial engineers.

From 1927 to 1941 I have been with the Continental Illinois National Bank & Trust Company of Chicago in the buying division of the bond department for four years and in 1931 I was assigned to the investment division of the trust department.



[fol. 1913] On or about October 21 of this year, Mr. Daniel C. Green asked the Chairman of our bank, the Continental Illinois National Bank & Trust Company, if there was a man in his organization qualified to give an opinion as to the question: "What rate of return should a company like the Michigan Gas Transmission Corporation earn on its invested capital or fair value in order to be able to finance by public offering of securities?"

The Chairman mentioned my name to Mr. Green and later asked me to give my assistance to him as a customer of our institution. No mention of fee or compensation was made and none will be charged.

Q. What contact have you had with gas companies' securities?

A. As a general policy we have not purchased natural gas pipeline securities for trust accounts. Our opinion is that natural gas pipeline securities have inherently a substantial risk factor which precludes their use for conservative trust investment.

We have bought and own in trusts a moderate amount of gas distributing company securities. Also there have been deposited in our hands as trustee, from time to time, [fol. 1914] relatively small amounts of natural gas securities which we have had to analyze and follow from an investment and market standpoint.

Q. As a result of your consideration of the problems, did you reach some conclusions?

A. In my opinion, the rate of return which a company like the Michigan Gas Transmission Corporation should earn on its invested capital or fair value, in order to be able to finance itself at this time by public offering of securities, is at least 8.5 percent.

Q. What information did you consider and examine in reaching the conclusions that you reached?

A. Among the information that I had access to were the following: "Investors' Appraisal of the Risks of Capital in the Natural Gas Industry as Compared with Other Divisions of the Utility Industry" Volumes I and II, prepared and filed by Paul B. Coffman, vice president of Standard and Poor's Corporation in this case. Then a typewritten statement taken, I believe, from the books

of the Michigan Gas Transmission Corporation, showing, among other things, gas deliveries, fixed assets, reserve for depreciation, operating revenues and expenses, gross income from operations for the calendar years 1932 to 1940, inclusive, and for the 12 months ended June 30, 1941.

In addition to the material mentioned above, I was given [fol. 1915] orally a broad outline of the case and a general description of the company and its business.

After examining the material furnished to me, I made use of information contained in Moody's Manuals, in Standard and Poor's published pamphlets, "Industrial Surveys" and "Security Markets," and other sources.

I found that the business and property of the following four companies most nearly approach those of the Michigan Gas Transmission Corporation: El Paso Natural Gas Company, Southern Natural Gas Company, Memphis Natural Gas Company and Interstate Natural Gas Company. These are four of the five companies which Mr. Coffman used in his study.

I made independent calculations for each of these companies to arrive at an average rate of return on their invested capital, including both stocks and bonds. In these calculations I used market values of their securities wherever they were available to me and estimated values where market prices were not available and income as reported for 1940. The results of this study were as follows:

El Paso, 8.9 percent on market value of invested capital; Southern, 10.2 percent; Memphis, 10.4 percent; and Interstate 9.4 percent. The arithmetical average of those four is 9.7 percent.

Inasmuch as only a portion of the securities of these four companies is publicly held and as the market on the [fol. 1916] latter is not a very active one, I wished to check the 9.7 per cent average mentioned above with the returns on securities which are more active in the market. The Dow-Jones industrial stock average is probably more closely followed by investors than any other index of market trends. This is an average of 30 active industrial stocks of representative companies in diversified industries. To these 30 companies I applied the same kind of calculation

as used for the four pipeline companies, using 1941 net income as estimated by Standard and Poor's, and market prices as of November 12, 1941, wherever they were available. Indicating the importance of these 30 companies, the aggregate market value of their securities was about \$17,244,000,000 and net income was about \$1,494,000,000. The average of the ratios of net income to market value of capitalization was 9.5 per cent. As a group, on a weighted basis, this ratio was 8.66 per cent.

Q. What would you say, in your opinion; would be the most economical method of financing publicly Michigan Gas Transmission Corporation?

A. Under present conditions, I believe the most economical method of financing publicly a company like Michigan Gas Transmission Corporation, assuming a total capitalization of \$13,000,000, would be to set up a capitalization of one-half serial bonds and one-half common [fol. 1917.] stock. My opinion is that the following setup would be favorably received by the investing public: \$6,500,000 of 3.5 per cent serial bonds, one to sixteen-year maturities, and six and a half million dollars of common stock.

Now, as to the bonds, the interest the first year would be \$227,500 which, I believe, would have to be covered at least five times after taxes. This would require net earnings after depreciation and taxes of \$1,137,500. Interest and serial maturities combined would be covered 1.8 times. I believe these bonds could be sold to net the company about par.

With respect to the common stock after \$227,500 of interest and \$406,250 annual serial maturity, a total of \$633,750, there would remain \$503,750 earnings for the common stock. The price earnings ratio for the first year would be about 13. The rate of earnings on the common would be about 14 percent after interest, but before serial maturities and about 7.7 percent after the serial maturities of the bonds.

The \$1,137,500 net earnings required for this setup would be about 8¾ per cent on the \$13,000,000 capital.

[fol. 1918] Mr. Littman: To what extent did you rely on Mr. Coffman's exhibits in arriving at your conclusions as to rate of return?

Trial Examiner: Supplementing this question, I was going to ask Mr. Baldrige if the exhibits referred to by the witness were 63, 64 and 65 for identification presented in this hearing about October 8 or 9.

[fol. 1919] The Witness: I am not familiar with the exhibit numbers. These are the two volumes that were furnished me.

Mr. Littman: Will you please read the titles of the two that you—

The Witness: I have already done so in my testimony, but I will read them again; "Investors' Appraisal of the Risks of Capital in the Natural Gas Industry as Compared with Other Divisions of the Utility Industry," Volumes I and II.

Mr. Littman: That is Exhibit 63 and Exhibit 64?

The Witness: Volume I is summary of analyses and Volume II is statistics supporting data in Volume I, Appendixes A, B and C.

Mr. Littman: You didn't examine Exhibit 65, a third exhibit, having numerous charts prepared by Mr. Coffman, did you?

The Witness: No, these are the only two exhibits that [fol. 1920] I have seen of Mr. Coffman's work.

[fol. 1922] The Witness: Shall I answer Mr. Littman's question now?

You asked me a question which I haven't yet answered.

Mr. Littman: I think it is simply this, whether you place any reliance on Mr. Coffman's third exhibit which is Exhibit 65 and I believe you stated that you hadn't ever seen that exhibit. Is that correct?

The Witness: That is correct.

[fol. 1933] FRANCIS S. HABERLY, a witness having been previously sworn, resumed the stand and testified further as follows:

By Mr. Porritt:

[fol. 1934] Q. Mr. Haberly, were you asked by Mr. Green to prepare an exhibit showing variations of the purchase power of the dollar as related to the Michigan Gas Transmission Corporation? A. I was.

Q. And did you prepare such an exhibit? A. I did.

Q. Mr. Haberly, in your statement of your qualifications and experience you referred to the fact that you had made many appraisals by the use of indexes and that your office currently prepared indexes relating to the cost of electric light and power construction, the cost of electric railway construction, and the cost of artificial gas construction.

Is that not correct?

A. Yes, that is true. I have made extensive use of indexes in many valuations which I have made both since I have been in business for myself and prior thereto. It is likewise true that indexes of construction cost of utility properties are computed monthly in my office based upon formulae and weightings which were developed by me.

In the course of such work, my office has accumulated a very extensive library of index data, not only relating to price movement of commodities and wages in general, but also with special reference to the materials, the equipment, [fol. 1935] and the labor costs entering into the construction of public-utility property.

Data of this latter character are kept currently up to date and some of it extends back beyond the Civil War. In fact, in a trended appraisal which was made about five years ago, indexes were prepared and applied to original costs of property built as early as 1849.



Q. Mr. Haberly, would you be able to state about what percentage of your valuation work has been done by means of indexes?

A. I do not know the percentage of valuation which I have done by means of indexes, but I will say that the aggregate value of utility property which I have appraised, where the index system alone has been used in the determination of such value, amounts to something in excess of one billion one hundred million dollars.

Q. As a result of the work which you have done by means of indexes, and your familiarity with them, do you have a knowledge of what has been the tendency of prices of commodities since 1930?

A. Yes, of necessity, I keep myself generally informed of the movement of general commodity prices. The best-known index of general commodity prices, and I think the most accurately compiled, is that of the United States Bureau of Labor Statistics, which index is known as the All Commodities Index of Wholesale Prices and is com-[fol. 1936] puted on a base of 100 for the year 1926.

This index includes a very comprehensive cross-section of prices in the field of agriculture, mining and manufacturing and includes farm products, foods, hides, textile products, fuel and lighting, metals and metal products, building materials, chemicals and allied products, house furnishings, and so forth:

The trend of prices of the All Commodities Index since 1930 has been somewhat erratic, inasmuch as the period from 1930 to date covers a period of great depression, a period of recovery, and the beginning of a World War.

The All Commodities Index stood at 86.4 for the year 1930 and declined to a low during the depression of 59.8, which point was reached in February, 1933.

The index then rose slowly to a new high of 88.0 in April, 1937, following which it sagged slightly during 1938 and 1939 due to a moderate slump in business.

Following the outbreak of the war, the index made a 4 point jump which was pretty well maintained throughout



the balance of the year 1939 and through the year 1940. Starting with 1941, the index has been rising quite steadily, the latest monthly figure being 91.8 for September, 1941.

The index of All Commodities, therefore, has risen nearly 14 percent in the first nine months of this year.

It is interesting to note the similarity of the movement [fol. 1937] of prices since the outbreak of the second World War, in 1939, with the movement of prices following the outbreak of the first World War in 1914.

Six months after the outbreak of World War I, the index of All Commodities had risen 1.2 percent as compared with 4.9 percent increase six months after the outbreak of the second World War. At the end of one year after the outbreak of the first World War, the index was 3 per cent above its pre-war level and one year following the outbreak of the second World War it was 3.2 percent above its pre-war level.

Two years after the outbreak of the first World War, the index was 23.9 percent above its pre-war level and two years after the outbreak of the present war it was 20.4 percent above its pre-World War level.

By August, 1916, the index had experienced a rise since the beginning of the war of 26.4 percent and for a like period, namely, September, 1941, which is the last date for which complete figures are available, the index showed a rise of 22.4 percent since the beginning of the present war.

To my mind this demonstrates that prices of wholesale commodities will, in all probability, follow a pattern somewhat similar to the movement of prices during the first World War.

Q. If, as you have just stated, prices during this war may follow a trend similar to that in the first World War, what does that mean will be the movement of prices in the [fol. 1938] next several years?

A. During World War I, wholesale Prices of All Commodities increased nearly one and one-half times in the period from 1914 to 1920 and may, if the present war continues, do somewhat the same thing in the next several years.

Price control legislation and price fixing may have some effect upon the extent of the rise, but, in my opinion, prices will rise despite such controls, although the rise may be much more orderly than in the first World War. I hope so, at least.

Q. Mr. Haberly, did prices act in a somewhat similar manner during the Civil War period, which started in 1861?

A. They did. The Civil War was a war within the boundaries of the United States and the effect upon prices was much more immediate, the average of Wholesale Prices for the year 1862 being 7 per cent above the average for 1861 and by 1865 was 11 per cent above the average for 1861.

The same economic laws, in general, are at work in each major war and the shape of the curve of price rise varies only as to degree and time.

Mr. Haberly, following the cessation of hostilities, do prices in general return to the pre-war level?

A. They do. Wholesale Prices dropped from their maximum peak during the Civil War at a fairly uniform rate over a period of thirteen years, reaching the pre-war level seventeen years after the start of the Civil War.

[fol. 1939] Following the first World War, prices dropped quite precipitously from their maximum peak in 1920 and stabilized themselves at a level about 40 per cent above the pre-war level for a period of nearly eight years.

Then they dropped again quite sharply during the depression, which started in the latter part of 1929, and reached the pre-war level in the latter part of 1931, or seventeen years after the start of World War I.

Q. Mr. Haberly, so far you have been talking about the trend of wholesale Prices of Commodities. What has been the movement of wages of labor since 1930?

A. The trend of wages since 1930 has followed somewhat the same path as the trend of all commodities. Considering all wages, other than agricultural wages, there was a drop, due to the depression, of between 20 and 25 per cent from 1930 to a low point in 1933, then, due to the

efforts of the Administration, to stronger and stronger unionization of labor and, finally, due to the tremendous demand for labor as a result of the defense program, wages have risen by leaps and bounds until they are now nearly 20 per cent higher than they were in 1930, and better than 50 per cent higher than they were in 1933.

Q. Mr. Haberly, in the figures you have just quoted, you have been referring, have you not, to wages in general? Is that not correct?

A. That is so. I have been talking about wages in [fol. 146] general, including common and skilled building labor, manufacturing wages, railway wages, public utility wages and road building wages.

In other words, it is an index which represents the general movement of wages in a variety of fields, excluding, as previously stated, agricultural wages.

Q. Mr. Haberly, did wages show tendencies to increase during the last two major wars in a manner similar somewhat to the increases experienced in All Commodities?

A. Yes, they did. During the Civil War, wages increased approximately 50 per cent and never returned to the pre-war level. In fact, they continued to rise slowly until the outbreak of the first World War.

During the first World War, wages increased until by 1920 they were 125 per cent above the pre-war level and, while some of that gain was temporarily lost during the depression of 1922 and again during the depression in 1932, 1933, and 1934, these losses have been made up and wages are now, I should say, about two and one-half times what they were in 1914.

Q. Mr. Haberly, do you expect that we will experience increases in wages during the present war such as were experienced in the former two wars you have just mentioned?

A. Yes, I think we can look forward to further increases in wages. In fact, we have been experiencing them. Skilled building wages, as reported by the Engineering [fol. 141] News-Record for twenty cities in the United States, have increased slightly over 5 percent since 1939, while common labor wages have increased slightly over 11 percent.

Manufacturing wages for some twenty-five industries, as reported by the National Industrial Conference Board, have increased nearly 14 per cent. since 1939. These percent increases do not reflect several further causes of increase in labor costs, namely, the 40-hour week and the necessity of paying time and a half for overtime and double time for Sundays and holidays.

No matter how well organized work may be, it is occasionally necessary to work overtime. In addition to this, Social Security tax must be paid on all wages, and this adds an additional four percent to the present cost of labor.

The increase in wages during the first two years following the beginning of World War I was 9 percent. This figure is taken from the All Wage Index, as computed by the United States Bureau of Labor Statistics, and, in my opinion, is in general accord with the average rise in wages thus far in this war.

Q. So far, Mr. Haberly, you have related the increases in wages that have occurred up to the present time since the beginning of the second World War.

Do you care to state whether you expect [these] will be further gains in wages provided hostilities continue for several years?

A. It is my belief that labor will continue to demand [fol. 1942] and receive further increases in wages. Labor today is very strongly unionized and it is watching the rising cost of living, the profits of industry, and rising taxes.

As long as these things increase, labor will demand increase in wages. I do not know and, frankly, I do not wish to hazard an opinion, as to what level wages may go, but I am definitely of the opinion that they will go in only one direction, and that is upward.

Unless the wage level is frozen, most material costs will rise, and if most material costs rise, then wages of necessity will rise. It is a vicious circle.

Mr. Haberly, could you state the change in wages since 1930?

A. Skilled building wages, again, as reported by the Engineering News-Record, for twenty cities, have increased approximately 10 percent since 1930 and better than 50 percent since the low level reached by them during the depression in 1933.

Common labor wages have increased approximately 36 since 1930 and nearly 80 percent since 1932, this again being the low point reached during the depression. With regard to wages in the 25 manufacturing industries, they have increased nearly 40 percent since 1930 and slightly over 65 percent since the low point of the depression in 1933. The increase in wages in the 25 manufacturing industries this year alone has been about 11 [fol. 1943] percent.

Q. Mr. Haberly, have you read the testimony of Dr. David Friday and seen the exhibit which he presented during the presentation of the Panhandle portion of this case? A. I have.

Q. Do you agree with the conclusions which Dr. Friday reached?

A. As I recall the substance of Dr. Friday's testimony and his exhibit, it dealt very largely with the trend of commodity prices and wages before, during and after major wars and appears to have been very carefully and capably prepared.

While an analysis of past and present trends is based upon actual facts, the conclusions and predictions of future trends must be a matter of judgment. The evidence which I have just given, in so far as it deals with commodity prices and wages in general, covers much the same ground as did Dr. Friday in his exhibit and I am in general accord with him as to the probable future trend of prices and wages.

Q. In what way, Mr. Haberly, does the evidence which you have presented as the trend of wholesale commodity prices and of wages relate to the trend of construction and operating costs for public utility properties?

A. The factors which affect general commodity costs and wages likewise affect the costs of operating or building public utilities in a generally similar manner.



[fol. 1944] A public utility property consists largely of commodities plus the labor of manufacturing, fabricating and installing them. While the United States Bureau of Labor Statistics All Commodities Index contains a large number of commodities which do not affect directly public utilities, it does include two major groups of commodities which constitute an important part of public utility property, namely, a group called "Metals and Metal Products" and a group called "Building Materials."

The first group, Metals and Metal Products, is made up of a variety of items, including iron ore, pig iron, bar iron, cast iron pipe, steel pipe, steel billets, steel rail, steel sheets and wire, some of which items, such as cast iron pipe, steel pipe, rail and steel sheets enter directly into the construction, operation and maintenance of public utility property, while the other items I have just mentioned form the materials from which all the machinery and equipment used by public utilities is made.

The Metals and Metal Products group also includes such non-ferrous metals as aluminum, copper, copper wire, lead, zinc, and nickel, which, in more or less degree, are used by public utilities also.

The rise in price for this group, either from 1930 or since the beginning of the war, has been less marked than for the all commodity group as a whole due to the ceiling that has been placed on the price of certain metals and metal products.

[fol. 1945] The metals entering into utility plant require a high degree of processing into machinery, the cost of which therefore reflects not only the cost of the metal, but the cost of labor, which latter, as I have previously testified, has for 25 industries shown marked increases both since 1930 and since the bottom of the depression in 1932 and 1933.

From this, it follows that the trend of costs of mechanical and electrical equipment used by public utilities has been increasing during the period since 1930. That this is the case I will demonstrate more fully later in my testimony.



The second group of commodities, entering directly into the construction, operation and maintenance of public utilities is the group called Building Materials.

This group is composed of such materials as lumber, brick, cement, sand, gravel, crushed stone, structural steel, paint material, glass, tile, lime, pipe, roofing, and so forth, and since 1930 has increased around 18 percent and since the low point of the depression in 1932, almost 50 percent up to the present time.

The labor of fabricating the building materials just mentioned into buildings and structures of public utilities, as I have previously testified, has shown marked increases both since 1930 and since the low point of the depression in 1932 and 1933. Skilled building wages have increased approximately 10 percent since 1930 and better than 50 percent [fol. 1946] cent since 1933. Common labor wages have increased approximately 36 percent since 1930 and nearly 80 percent since 1932.

Q. Mr. Haberly, how does the trend of building material costs since the beginning of World War II compare with the trend for a similar period in World War I?

A. The index of building materials had risen about 19 percent up through September, 1941, over that prevailing during the last month preceding the present World War. For an exactly similar period of time after the start of the first World War, the increase in the index was nearly 28 percent or, in other words, the upward trend of building materials, so far in this war, has been only about two-thirds as great as it was in the first World War for a like period of time.

Q. Have you any figures indicating the price movements of specific items or groups of items entering into the construction of the property of the Michigan Gas Transmission Corporation?

A. Yes, I have. I can give you the trend of costs as relating to a number of items, for example:

The first two 1300 h.p. main compressor units, purchased by the Michigan Gas Transmission Corporation in April, 1936, cost \$48,175 each; f.o.b. factory, with freight allowed, and the last one purchased was ordered in August, 1941,

at a cost of \$61,983 f.o.b. factory, which, with freight of \$1620, gives a cost of \$63,603.

[fol. 1947] In other words, there has been an increase in price of Worthington compressors of this size since 1936 of 32 percent.

Compressors of the same size, purchased in 1937, cost about 2 percent more than those purchased in 1936, and those purchased in 1940 cost about 16 percent more than those purchased in 1936.

Expressed in other words, this means that the amount of money spent in 1936 for a main compressor would purchase only 98 percent of a compressor in 1937, and only 86 percent of a compressor in 1940, and likewise only 75 percent of a compressor as of June 30, 1941.

Q. Do you mean by this, Mr. Haberly, that the purchasing power of the dollar has been declining since 1936?

A. That is correct. As I have just stated, the dollar spent for compressor units in 1937 would purchase only about 98 percent of what it would in 1936; in 1940, only about 86 percent of what it would in 1936; and as of June 30, 1941, only about 75 percent of what it would in 1936.

The same decline in the purchasing power of the dollar has taken place in varying degree with respect to practically all other items of property as well as with respect to the labor necessary for the installation of such property.

To illustrate, the decline in the purchasing power of the dollar since 1936 for 180 hp. Engine-generators, present purchasing power as related to 1936 as 1.00 is now only [fol. 1948] .773; for Worthington pumps, it is now .774; for elevated water tanks erected is .692; for traveling cranes is .555; for steel pipe in large sizes is .900; for valves, .749; for main compressor buildings, erected, .736; for the labor of installing equipment, .568; for the labor of erecting structures, .550; and for the labor and expense of installing mains, .736.

Q. Mr. Haberly, have you prepared an exhibit entitled, "Michigan Gas Transmission Corporation, Variation in Purchasing Power of Dollar as Related to 'Gas Plant', 1936 equalling 100"?

A. I have.

(The Document Referred To Was Marked Exhibit No. 97 For Identification.)

The Exhibit contains six charts which present graphically the variation in the purchasing power of the dollar as related to Station Structure Material; Station Structure Labor; Main Compressor Units; Station Equipment Labor; Steel Pipe, Large Sizes; and Mains Installation Labor.

These six groups constitute the most important elements making up the property of the Michigan Gas Transmission Corporation.

[fol. 1949] Following the charts, there is a folded sheet setting forth in tabular form the variation in the purchasing power of the dollar with respect to eleven important items of property, including those covered by the six charts.

The last column on this tabulation, which is headed "Composite of Total 'Gas Plant'," represents the variation in the purchasing power of the dollar as spent for all of the property constructed each year.

The figure of 86.2, as shown in the lower right-hand corner of the tabulation opposite the caption "Purchasing Power at June 30, 1941, of Actual Dollars spent on 'Gas Plant'," expresses the percent of property that could have been built at the time the various units of property were built by using today's dollar with its present purchasing power.

In other words, the same number of dollars as were originally spent for this property, if spent as of June 30, 1941, would build only 86.2 percent of the present plant.

---

[fol. 1952] FRED A. SPITZNAGLE a witness, having been previously sworn, resumed the stand and testified further as follows:

By Mr. Porritt:

[fol. 1954] Q. Mr. Spitznagle, I hand you exhibit labeled "Statement of Income and Expense, per books," consisting of three pages, and ask, Mr. Examiner, that this be marked No. 99 for the purpose of identification.

(The Document Referred To Was Marked Exhibit No. 99 For Identification.)

A. Exhibit 99, page 1, is a condensed statement of income and expenses, per books, of Michigan Gas and its predecessor company, Indiana Gas Transmission Corporation, for the calendar year 1936 and of Michigan Gas for [fol. 1955] the calendar years 1936 to 1940, inclusive, and the twelve months ended June 30, 1941, as well as the six months periods ended December 31, 1940, and June 30, 1941.

Page 2 of this exhibit lists for the calendar years 1938 to 1940, inclusive, the twelve months ended June 30, 1941, and each six months period included in the latter period, the amount of charges paid by Michigan Gas to associated companies for management supervisory and other special services, and the operating and gas plant accounts to which such charges were recorded.

Page 3 of this exhibit sets out, with respect to the depreciation provision charged to income for the periods reported on in the condensed statement of income and expense, except the six months ended December 31, 1940, the depreciable base of gas plant, annual depreciation rate used, annual charge classified as depreciation, and facts as to depreciation on transportation and special equipment charged to transportation expense clearing accounts.

Trial Examiner: The statement of income and expense identified as Exhibit No. 99 will be received without objection, in evidence.

(Exhibit No. 99 For Identification Was Received in Evidence.)

Q. Mr. Spitznagle, I hand you an exhibit titled, "Statement of Income and Expense, per books, and After Adjustments and Redistributions," and so forth, consisting of

four pages and, Mr. Examiner, I ask that this exhibit be marked No. 100 for the purposes of identification.

(The Document Referred To Was Marked Exhibit No. 100 For Identification.)

Exhibit 100, page 1, reflects, in part, with respect to the six months period ended December 31, 1940, and the six months period ended June 30, 1941, the same statement of income and expense as is shown on page 1 of Exhibit 99, just offered in evidence.

It also shows the amount of adjustments and redistributions required to be made to reflect the annual result per books of the operation of said six months periods on an annual basis, and it shows the result of operations so adjusted for the twelve months ended June 30, 1941.

It will be noted in this exhibit that the net gas operating [fol. 1957] revenues per books is \$859,295.46 which is obtained by adding the amount shown on Page 1 for the six months ended December 31, 1940, of \$316,903.71 in Column A to the amount \$542,391.78 shown in Column D on the same line, which is Line 11 whereas, after the adjustments and redistributions, it is \$969,993.36 which is the amount shown on Line 11 under Column G.

Pages 2 to 4, inclusive, detail the adjustments recorded and keyed, as such, on Page 1 of this exhibit, and I believe the adjustments as described, are self-explanatory.

[fol. 1958] By Mr. Porritt:

Q. Mr. Spitznagle, I have an exhibit titled "Comparative Statement of Operating Revenue" and, Mr. Examiner, ask that this exhibit be marked No. 101 for the purpose of identification.

(The Document Referred To Was Marked Exhibit No. 101 for Identification.)

Exhibit 101 lists the name of each customer of Michigan Gas and each customer of Panhandle Eastern to whom gas

deliveries are made by Michigan Gas Transmission Corporation and the operating revenue derived by Michigan Gas Transmission Corporation from such customers in the calendar years 1936 to 1940, inclusive; for the twelve months ended June 30, 1941, and in each six months of the latter period.

The information shown supports the classified and total operating revenues shown in the condensed statement of income and expense, submitted as Exhibits 99 and 100.

[fol. 1959] (Exhibit No. 101 Was Received in Evidence.)

Q. Mr. Spitznagle, I have an exhibit titled "Operation and Maintenance Expenses" and, Mr. Examiner, ask that this exhibit be marked No. 102 for the purposes of identification.

(The Document Referred To Was Marked Exhibit No. 102 for Identification.)

A. Exhibit 102 contains the detailed operating and maintenance expenses for Michigan Gas Transmission Corporation for the six months ended December 31, 1940, six months ended June 30, 1941, and twelve months ended June 30, 1941, classified in accordance with the classification of accounts promulgated and prescribed by the Federal Power Commission.

[fol. 1960] (Exhibit No. 102 Was Received in Evidence.)

By Mr. Porritt:

Q. Mr. Spitznagle, I have an exhibit titled "Gas Sales, Gas Transported, Gas Used by Company, Line Losses and Gas Purchased", and ask, Mr. Examiner, that this exhibit be marked 103 for the purposes of identification.

(The Document Referred To Was Marked Exhibit No. 103 for Identification.)



A. Exhibit 103 details with respect to Michigan Gas Transmission customers and those of Panhandle Eastern to whom gas is delivered by Michigan Gas the volume of gas, expressed in thousand cubic feet, delivered to such customers during the calendar years 1936 to 1940, the twelve months period ended June 30, 1941, and each six months period in the latter period.

It also shows the volume of gas used by the company, line [fol. 1961] losses of the company, and the total volume of of gas purchased during the same periods. In other words, the information shown is the volume of gas responsive to operating revenues in the periods outlined.

Mr. Littman: Are these figures as per books and records of the company?

The Witness: Books and records, yes, taken off of the books and records of the company, that is correct. I so testified at the beginning of my testimony.

[fol. 1962] (Exhibit No. 103 Was Received in Evidence.)

[fol. 1964] By Mr. Porritt:

Q. Mr. Spitznagle, I have an exhibit titled "Estimates [fol. 1965] —Original Cost Rate Base—Pro Forma Utility Income before Allowance of Amortization of Investment—Annual Amortization Allowable—Pro Forma Utility Income Allowable and Deficiency in Pro Forma Utility Income over Amount Allowable", and, Mr. Examiner, I ask that this exhibit be marked No. 104 for the purposes of identification.

(The Document Referred to was Marked Exhibit No. 104 for Identification.)

A. This exhibit has been prepared to show the amount of utility income available for amortization responsive to and return on the original cost rate base, of Michigan Gas Transmission Corporation, based on the Company's operations for said twelve months period adjusted as here-

after explained by me, the annual amortization responsive to the original cost rate base, the return allowable on the original cost rate base and the original cost rate base.

The adjustments made in this statement are for the purpose of giving effect to changes in conditions in or since the twelve months period reflected per books as adjusted, and affecting the company's income for the twelve months period ended June 30, 1941, and to provide for proper amortization of the investment.

The adjustments referred to are explained as follows:

[fol. 1966] It will be noted that the first item on this statement originates on Exhibit 100 previously submitted in this case. The item of depreciation preceded by the numeral 1, in parentheses, on page one of this exhibit is added back to utility income because of the amount for amortization of the investment substituted at the bottom of this page under the caption "Annual Amortization", and so forth.

The next item of Federal income and excess profits tax is added back to income in lieu of the deduction substituted under item 11, in order that proper adjustment be made to cover the effect of United States Revenue Act of 1941 with respect to the Company's taxable income for the six months ended December 31, 1940, and some of the other adjustments made in this statement. Taxes for the calendar year 1940 are payable by the company under the Revenue Act of 1940.

The next item, prefixed by the numeral 3, is added back to the amount of utility income to exclude the amount of this item from expenses. It represents small expenditures for donations made by the company which under the Federal Power Commission classification of accounts must be included in an account designated "miscellaneous income deductions."

The next item, prefixed by the numeral 4, has been added to the amount of utility income in order to reflect in such income the amount of annual revenue the Company will be entitled to receive for gas transported under its contract [fol. 1967] with Kentucky Natural Gas Corporation.

The next item, prefixed by the numeral 5, has been added to utility income because of the inclusion of the amount of this item in working capital, Exhibit 94, offered for identification in this case.

The next item, prefixed by the numeral 6, has been deducted from the amount of utility income, based on the amount of the estimated effect on utility income of completing construction work in progress, as at June 30, 1941, as detailed in Exhibit 95 submitted for identification in this case.

The next item, prefixed by the numeral 7, has been deducted from utility income to provide for amortizing the expense of the instant case, as detailed in Exhibit 96.

Before explaining the next item, I wish to point out that the title of this item is not to be construed as a claim for the allowance of such item as maintenance. Actual expenditures incurred in the future with respect to this item will constitute expenditures for maintenance and renewal and replacements, and the latter item will result in retirements of property, all as prescribed in the Federal Power Commission Classification of Accounts.

This item, prefixed by the numeral 8, is deducted from utility income to provide for future expenditures of this character as explained, which are not included in the annual amortization provision included in this statement.

[fol. 1968] The amount used is as testified by Mr. George Young, in this case.

The next item, designated by the numeral 9, is deducted from utility income to provide for an annual wage increase made by the company on July 1, 1941.

The next item, designated by the numeral 10, has been deducted from utility income to give effect to numerous rate changes made in the period ended June 30, 1941, and contracted to be made.

During the period in question, numerous rate changes became effective, both with respect to charges made to distributing companies and municipalities and the amounts paid to Panhandle Eastern Pipe Line Company for the gas deliveries to those companies and municipalities, the

major change occurring during the period being a substitution of 3 and 4 cents rate for the demand commodity form of rate in most of the gas sales and transportation contracts and the corresponding change in the cost of such gas to Michigan Gas Transmission Corporation.

The new form of rate was offered to all companies and has been accepted by all except the Michigan Consolidated Gas Company and the Kokomo Gas and Fuel Company.

The effective date of the change varied for the different companies depending on their acceptance of the new rate. The following are the effective dates applicable to the various companies:

[fol. 1969] Indiana-Ohio Public Service Company—January 1, 1941;

Lynn Natural Gas Company—May 1, 1941;

Northern Indiana Public Service Company—July 1, 1940;

Public Service Company of Indiana—April 1, 1941;

Town of Lapel, Indiana—June 1, 1941;

Town of Pittsboro, Indiana—May 1, 1941;

Town of Roachdale, Indiana—May 1, 1941;

Indiana Gas Distribution Corporation—June 1, 1941;

The Ohio Fuel Gas Company—June 1, 1941;

Ohio Gas Light and Coke Company—November 1, 1940;

Central States Natural Gas Co., Inc.—November 1, 1940;

Toledo Edison Company—December 1, 1940;

In addition to the foregoing, the new rate has been accepted by the following companies, but the effective date of the change has not as yet been established by the Federal Power Commission:

Central Indiana Gas Company;

Pendleton Natural Gas Company;

Town of Montezuma, Indiana.

In making the recalculation, the revenue and gas purchase cost with respect to deliveries to all of the above-listed companies has been restated to give effect to the rates provided in the new contracts for the entire twelve-months' period ended June 30, 1941.

Effect has also been given in the restatement, to the new [fol. 1970] rates applicable to industrial gas deliveries which have not as yet been made effective by the Federal Power Commission.

In restating revenue derived from sales to Central Indiana Gas Company, consideration was given to the fact that under the provisions of the proposed contract, deliveries to certain customers of that company which, under the old contract, were classified as industrial deliveries, will, under the new contract, fall into the firm gas classification.

Viewing the industrial gas situation as a whole, the net effect of the new industrial rate indicates a reduction in Michigan Gas Transmission Corporation's utility income, before taxes, of industrial gas deliveries of \$56,863.90.

Based on deliveries during the twelve-months period analyzed, the analysis indicates that if the rates now in effect and those rates incorporated in contracts which have been executed but have not as yet become effective had all been enforced during the twelve-months period ended June 30, 1941, utility income, before taxes, of the company would have been reduced in the total amount of \$93,538.60.

The next item preceded by the numeral 11 is a recomputation of the Federal income tax of Michigan Gas Transmission Corporation with respect to the taxable income shown in this statement.

The balance of the items on this page, as well as those on page 2, will be explained by Mr. Daniel C. Green.

[fol. 1971] Pages 3 to 6, inclusive, describe the adjustments made in this exhibit.

DANIEL C. GREEN, a witness called on behalf of Michigan Gas Transmission Corporation, being duly sworn, was examined and testified as follows:

[fol. 1972] By Mr. Porritt:

Q. Mr. Green, will you give your full name and address?

A. Daniel C. Green, 327 South LaSalle Street, Chicago, Illinois.

I am a graduate of Purdue University, 1908, with a degree of Bachelor of Science, Electrical Engineering.

Q. What is your present position?

A. President and Director of Central Service Corporation, a corporation which specializes in rendering consulting, advisory, and special services to public utility companies in all phases of operation.

It is an independent corporation, neither controlled by, nor affiliated with, any other corporation or group.

I first started in the utility business in San Diego, California, connected as Commercial Manager of San Diego Consolidated Gas & Electric Company, a company rendering electric and manufactured gas service. That was for the period January, 1909, to July, 1910.

I was then connected with the Oregon Power Company, Albany, Oregon, as manager of the company's operations which consisted of electric and water business, from July [fol. 1973] 1, 1910, to December 1, 1911.

I was then connected with the Oregon Power Company, Marshfield, Oregon, electric and manufactured gas, as General Manager, from December 1, 1911, to March 10, 1913.

I was then connected with the Everett Gas Company, Everett, Washington, electric and manufactured gas business, as Vice-President and General Manager, from December 1, 1913, to March 10, 1915.

I then was connected with the Utah Power & Light Company, Salt Lake City, Utah, electric and gas business,



as Division Manager, from March 10, 1915, to September 15, 1916.

Then I returned to the Byllesby group, so-called, as Vice-President and General Manager of the Fort Smith Light & Traction Company, of Fort Smith, Arkansas, which company rendered electric, natural gas, and street railway service. That was for the period of September 15, 1916, to August 15, 1923.

I then returned to Utah Power & Light Company, Salt Lake City, Utah, as Vice-President and General Manager for the period August 15, 1923, to April 1, 1929.

During the same period, I was also Vice-President of Utah Light & Traction Company and the Western Colorado Power Company, Durango, Colorado.

[fol. 1974] I was then connected with the Electric Bond and Share Company, New York City, New York, a holding company, from April 1, 1929, to July 31, 1933.

On March 5, 1930, I was elected a Vice-President of that company.

I might say that the position of Vice-President and General Manager of the various operating companies that I have referred to, the duties as such were similar to the presidents of corporations today. In those days, the President of the local operating company was usually some man back at the main office of the holding company.

I merely state that to give you a better description, I think, of the duties I performed as Vice-President and General Manager, you might say, of an operating company.

From August 1, 1933, to July 23, 1934, I left the Electric Bond and Share Company and accepted an assignment as Manager for the Receivers of the Middle West Utilities Company, which was in receivership, Edward N. Hurley and Charles A. McCulloch being Receivers. The Middle West Utilities Company at Chicago, Illinois, was transferred to 77B Proceedings, July 23, 1934, and, at that time, I was appointed Trustee of the Middle West Utilities Company by Judge James H. Wilkerson of the District Court of the United States for the Northern Dis-

trict of Illinois and the company was reorganized and securities issued fourteen months later, November 27, 1935.

[fol. 1975-76] On reorganization of the Middle West Utilities Company into what was known as the Middle West Corporation, I was President and Director of that company from November 27, 1935, to October, 1937.

I resigned as President of the Middle West Corporation and as Director in October, 1937, to organize and did organize the company I am now President of, Central Service Corporation.

Q. Have you, in these various positions, had quite a broad experience in the financing of public utilities?

A. Naturally, when I was directly connected with operating companies, that problem was before me and especially later, as Trustee of the Middle West Utilities Company and as President of the Middle West Corporation and as a Vice-President of Electric Bond and Share, with those properties that I was delegated to follow.

Q. Mr. Green, will you please state for the record the circumstances under which your company, Central Service Corporation, was employed in connection with this case?

A. Mr. Beckjord, president of Michigan Gas Transmission Corporation, called me to New York City and advised that the corporation was a party to the rate proceedings before the Federal Power Commission, and asked that we accept the assignment of advising and assisting in the preparation of the data and evidence to be submitted in this case.

Q. Do you personally, or does your corporation own any securities of Columbia Gas and Electric Corporation or any of its subsidiaries and affiliates, including Michigan Gas Transmission Corporation?

A. I personally do not own any of these securities, nor does Central Service Corporation.

Q. Do you personally, or does Central Service Corporation own any of the securities of the Missouri Kansas Pipe Line Company or Panhandle Eastern Pipe Line Company?

A. No.

Q. From the record which you have submitted of your experience and qualifications, have you ever been connected with any company that is a subsidiary or an affiliate of any of the companies parties to this case? A

A. I have never been connected at any time with any of those companies.

Q. Mr. Green, as President of your organization I assume that you personally have followed the work of your organization and the scope of testimony and exhibits which have been presented in this case.

Is that correct?

A. Yes, that is correct.

Q. Are you familiar with and have you studied the earnings statements of Michigan Gas Transmission Corporation and the various exhibits which have been presented in this case?

[fol. 1980] In the future, we can reasonably expect great advancement in coal-gas manufacturing plants. The coal gas manufacturing process will continue to be improved, and we can expect new commercial products to be recovered from coal to the point where the net cost of manufactured gas from coal will be competitive with natural gas transported the great distances that gas is now transported through the pipe lines of Panhandle Eastern and Michigan Gas.

[fol. 1981] I personally know of hydroelectric plants that were built 15 years ago that will have useful lives of not less than 100 years. The cost of the hydroelectric power at that time was considerably less than for power generated by coal steam plants.

Today, due to the advancement in the art of steam generation by coal, the cost of steam electric power is considerably lower than the hydroelectric power generated by those plants.

I cannot stress too strongly the possible competition that might face natural gas transported through this pipe line 15 or 16 years hence. Such competition might have the effect of greatly reducing, if not eliminating, the large

quantities of gas now transported through this pipe line. Obsolescence occurs; it does not accrue.

[fol. 1983] Operating expenses as shown in this statement, Exhibit 104, are based on wage levels of the corporation existing as of July 1, 1941. Federal taxes are based on the Revenue Act of 1941, and local taxes, for the most part, on taxes paid for 1940.

The cost of living index is showing an upward trend. We can expect further increases in operating expenses due to increased wages, cost of materials, and other costs.

No allowance is made for these contingencies in the Pro Forma Income Statement, Exhibit No. 104, and, in my opinion, they are more than contingencies.

We have seen the effect of the new tax laws on the earnings of this corporation and others. We are daily reminded by all branches of our Federal government that we can expect further substantial increases in Federal taxes next year and the year following.

The costs of government of all local, special divisions, cities, counties, and states, are gradually increasing. We can expect them further to increase local taxes in the future. Local governments will be alert to devise new forms of taxation, all of which will further tend to increase the total tax items of any corporation.

[fol. 1984] No amount is allowed for this contingency in the Pro Forma Income Statement, Exhibit No. 104.

The Michigan Gas Transmission Corporation is a wholly owned subsidiary of Columbia Gas and Electric Corporation, which I shall call Columbia Gas.

Its capital structure as of June 30, 1941, was as follows:

|   |             |
|---|-------------|
| 6 percent Demand Notes, payable to parent company ..... | \$5,900,500 |
| 6 percent Loans, payable to parent company .....        | \$2,420,000 |
| 44,800 shares no par value common stock .....           | \$2,240,000 |

Q. If this corporation were to be financed today as an independent corporation and not as a wholly owned subsidiary, what changes, in your opinion, should be made in its financial structure?

A. In my opinion, a sound financial structure to finance this corporation would consist of \$5,600,000 principal amount 16-year serial debentures, with an assumed coupon rate of  $3\frac{1}{2}$  percent, and \$5,300,000 par value of common stock.

Mr. Gorman: What is that opinion based upon, Mr. Green?

The Witness: It is based on my experience in working [fol. 1985] out recapitalizations and the securities to be issued in financing new enterprises.

Mr. Gorman: As an officer of the corporations which you have testified you were connected with previously?

The Witness: You mean, where did I get the experience?

Mr. Gorman: Yes.

The Witness: Various operating companies that I was the operating head of, during their refinancing; then with the Electric Bond and Share Company, following operations there of subsidiaries and, more particularly, where perhaps my opinion carried more weight, when I was trustee in the 77 (b) of Middle West Utilities which had to do with the refunding of many of the securities of many of their subsidiaries.

By Mr. Porritt:

Q. If this corporation were financed on this basis, what effect would such securities have on the Federal taxes deducted in determining the Pro Forma Income in Exhibit No. 104?

A. The Federal normal, excess profits, and surtax taxes paid, and to be paid by Michigan Gas, would be greatly increased.

[fol. 1990] Mr. Littman: May I ask a question, please?

On what theory, Mr. Green, do you think that it is just and proper that excess profit taxes be paid by the gas consumers?

[fol. 1991] The Witness: If the Federal Power Commission or any other regulatory body determines the policy that any form of taxes,—I do not care whether it is excess profits tax, the Federal normal tax, or any other tax,—is not to be considered an expense of the company in determining rates, you would have to then adjust your rate of return to offset that because, in my opinion, no investor would go buy securities of the company on any such basis.

Mr. Lee: Why couldn't you fix a rate that would not produce an excess profit and require such a tax?

The Witness: That comes to the question about what is a fair return.

Q: The Pro Forma Income Statement, Exhibit No. 164, [fol. 1992] shows the annual amount for amortization of the investment. Is that correct?

A. Yes, sir.

[fol. 2002] Q. You are aware of the fact that in these proceedings, counsel for the Commission has objected to the introduction of testimony regarding the reproduction new value of the physical property used in rendering service, and you are also aware of the contention or position taken by the Commission in certain other cases that the so-called rate base should be based on the original cost of the property and other elements entering into the rate base, such as working capital, and so forth.

If original cost is used as a basis of determining a rate base, does such method, in your opinion, interfere with or deprive the owners of any rights as investors?

A. It is my opinion that the use of the reproduction theory or the original cost theory, either one, does not deprive the investor of any rights or benefits, provided you properly define fair rate of return.



Q. Will you please explain more in detail your reasons for making this statement?

A. It is my conception that the rates of a public utility should be just and reasonable. The investor is entitled to a fair return on a fair value of his property used and useful in rendering service to the public.

As an example, if property is built today at a cost of one million dollars, and it is assumed that the fair rate of re- [fol. 2003] turn in today's dollars on property constructed with today's dollars should be 8 percent, the investor would be entitled to \$80,000 annual return. If, however, this property was built during a period of lower prices, or when the dollar had a greater purchasing value than it has today, you must use reproduction cost as the rate base, if you are to use the 8 percent return. Or, if you use original cost, you must allow a higher return to compensate for the change in the value of the dollar.

Mr. Gorman: Is that what you construe to be the legal interpretation of the decision of the Court, or is that your opinion?

The Witness: This is purely my opinion.

Mr. Lee: (Interposing): It is a system we would like to see established.

The Witness: I certainly would, as an investor.

To use a homely illustration, if a person invests his money in a public utility and the company constructs property today for the public use, he is entitled to receive a fair return on his investment, and that fair return is equivalent to a certain amount of bacon and eggs. Each year thereafter, he is entitled to receive the same amount of bacon and eggs regardless of the purchasing power of the dollar.

[fol. 2005] The Witness: My conception is that in a private industrial concern, we will say, where there is no regulation as to limiting your return, you will have swings, you will go way up during some years and earn 20 or 30 percent, and down to 1 or 2 percent, purely a risk.

Now, with a regulated business, the return is not guaranteed. You have a ceiling. That is really a fact, there is a

ceiling there, and the investor is entitled to a fair return on the fair value of his property.

Now, I am saying if you take one side of this equation, which is the rate base over here, and you are going to freeze that in original dollars spent and use that as that factor you must have over on this side that return in relation to the value of those dollars that you are going to pay him. In other words, you cannot pay him lead dollars.

. . . . .

[fol. 2006] Mr. Littman: One question while you are on this subject, Mr. Green: Do you think the investor should assume any risks of the change in value of the dollar?

The Witness: In a regulated industry, no. He assumes enough risks in the business itself.

Mr. Littman: He should not stand any of those risks at all?

[fol. 2007] The Witness: I do not think so, no. If the dollar varies I think his return should be varied, if you are not going to vary the value over here of the investment.

. . . . .

[fol. 2012) By Mr. Porritt:

Q. Mr. Green, based on your investigation of the affairs of Michigan Gas, including gross operating revenues and utility income as shown on its financial statement, as well as the Pro Forma Income Statement prepared by your organization under your direction, will you please state your opinion as to the reasonableness of the earnings of this corporation as of June 30, 1941, and the expected earnings in the near future?

A. Based on my study of the affairs of this corporation, the testimony of the witnesses, the exhibits, the adjusted income statement, pro forma income statement, and all factors which I have considered with reference to the present and immediate future earnings, it is my opinion that the Michigan Gas Transmission Corporation is not presently receiving an unreasonable return on its investment.

. . . . .

[fol. 2016] WALTER C. BECKJORD, was called as a witness on behalf of Michigan Gas Transmission Corporation, being first duly sworn, was examined and testified as follows:

Direct Examination.

By Mr. Porritt:

Q. Will you please state your full name, Mr. Beckjord?

A. Walter C. Beckjord.

Q. Where do you reside?

A. Greenwich, Connecticut.

Q. Will you please state briefly your experience in the gas industry?

A. Well, I was born in St. Paul, Minnesota, in 1888.

[fol. 2017] I attended the public schools there and graduated from the University of Minnesota in 1909 with a degree of electrical engineer.

During the summer I worked in the utility business as a lineman and a ditch digger, and I started in an apprenticeship course with the St. Paul Gas & Light Company in 1906. I was construction engineer and electrical engineer and, also, in charge of gas works operation and pipeline construction.

In 1912 I went to Binghamton, New York, and made an electrolysis survey.

During the period from 1913 to '15 I made electrolysis surveys in Milwaukee, Wisconsin; Long Branch, New Jersey; San Antonio, Texas; and St. Joseph, Missouri.

In the period from 1915 to 1918 I was engaged in appraisal work, starting in in the Madison Gas & Electric Company, which is one of the subsidiaries of the American Light & Traction Company, which company operated extensive properties in Michigan, Detroit, Grand Rapids, Muskegon, later Ann Arbor, also, Binghamton, New York; Long Branch, New Jersey; Milwaukee and Madison, Wisconsin; St. Paul; St. Joseph, Missouri; and San Antonio, Texas.

I operated the Madison Gas & Electric property for a while and then was transferred to New York as assistant engineer of the American Light & Traction Company.

In 1918 I was sent to Kentucky to operate a coal mine [fol. 2018] to supply coal for Detroit. I spent about a year down there and later became president of the White Star Coal Company. That was sold and I was back in operating work for the American Light & Traction Company, engaged in rate work, construction work, gas and electric operation, the construction of electric plants.

I had something to do with natural gas in St. Joseph, Missouri, and San Antonio, Texas.

I became vice president and chief engineer and director of the American Light & Traction Company in about 1926 and was with that company in that position until about 1930.

In 1929 our offices were transferred to Chicago and at the beginning of 1930 I accepted a position as vice president and general manager of the Boston Consolidated Gas Company in Boston, Massachusetts.

I stayed there about five years and then accepted a position as vice president and general manager of the Columbia Gas & Electric Corporation, with headquarters, to begin with, in Pittsburgh.

I was elected Chairman of the Executive Committee in 1936, I believe, and in 1935 I became president of the Michigan Gas Transmission Corporation, which was organized to build the line from Dana to Detroit.

In 1938 I became president of the Columbia Engineering Corporation, still continuing as vice president and general [fol. 2019] manager of the Columbia Gas & Electric Corporation.

I think that brings me down to the present date, which positions I now hold.

I am a director of various subsidiaries of the Columbia Gas & Electric Corporation, including The Cincinnati Gas & Electric Company, The Dayton Power and Light Company, United Fuel Gas Company, Michigan Gas Transmission Corporation Binghamton Gas Works and some of the others.

Q. What connections have you had with the various trade organizations in the natural gas industry?

A. I first became connected with the American Gas Association activities in 1919. I was active on an electrolysis committee then.

In the period from 1926 to 1928, I was chairman of the technical section. In 1932, I think it was, I was chairman of the commercial section and I have been a director of that organization since 1932.

In 1939 I was first vice president of the American Gas Association and became president during the period of 1939 and '40.

Q. Did you negotiate the contract between the Panhandle Eastern Pipe Line Company and the Michigan Consolidated Gas Company?

A. Yes, in 1934 when I came with the Columbia organization I first started in negotiating on some contracts in eastern Pennsylvania which were in the territory supplied by the Atlantic Seaboard Corporation. That line had been built in the early part of 1931, as I recall it, before my connection with the system and contracts had never been consummated with the group of utilities around Philadelphia and I was at work on that at the same time.

Early in 1935, I started discussions with Mr. William G. Woolfolk, who was president of the Detroit City Gas Company, along the lines of bringing straight natural gas to Detroit from Texas.

I was designated as agent of the Panhandle Eastern Pipe Line Company by Mr. Burt Bay who was then president and I spent considerable time in Detroit in the spring of 1935.

I was, of course, very familiar with the problems at Detroit because I had been with the holding company some 23 years and was very familiar with the operating conditions in Detroit and the general layout of their plant and system, and in my discussions with Mr. Woolfolk I suggested the idea of using the demand and commodity rate, which I thought would be better suited to their conditions in Detroit than a straight flat rate that had been discussed with them in the year previous to that.

I believe there had been some discussions prior to 1935, but I was not familiar with those because I was not an employee of the Columbia Gas & Electric Corporation at that time.

There were, also, some brief discussions with Mayor [fol. 2021] Cousens. Frank Cousens of Detroit, about that time, who was very much interested in bringing natural gas to Detroit, particularly for the large industries located there, the automobile industry.

After considerable discussion we arrived at gate rates of 38 cents per therm per month and a cent and a half per therm for the commodity cost, commodity charge.

One of the principal difficulties we had to overcome was the fact that Texas is about 1200 miles from Detroit and there being only a single pipeline, it was considered a considerable operating hazard to have either straight natural gas or to have a system operating without a standby plant.

We discussed mixed gas operations, because at that time or just previous to this time that I speak of, Detroit had been getting a large share of their gas requirements from the Semet-Solvay who had a large by-product coke plant in Detroit and I think they were buying gas, about 26,000,000 a day, if I remember correctly, or thereabouts, and at sometime during the past they bought by-product coke oven gas from the Ford plant.

I first talked about mixed gas, but that didn't seem to be feasible under the conditions. Ford was then using all his own gas and there was some question of price with Solvay with which negotiations I am not familiar, but the result of [fol. 2022] it all was that we signed a contract during the summer of 1935, I believe it was August 31, 1935, calling for the delivery of approximately 30,000,000 feet of natural gas from Texas to Detroit.

In that contract we stipulated that water gas plants in Detroit which had a capacity of around 60,000,000 to 65,000,000 cubic feet, I believe, be converted to making 1,000 B.t.u. oil gas and we stipulated that those plants should be used for standby plants and kept in operation and rebuilt for making 1,000 B.t.u. gas, which would be the equivalent



of natural gas from Texas which has a B.t.u. content of about 1010, I believe, on the average.

Also, of course, in the original concept of the contract it was part of the picture that they should be used for peak shaving because it was anticipated that the peaks in Detroit would be quite large because it is a cold climate up there and very windy in the winter time and they need large quantities of house-heating gas to take care of the sudden peaks that come up.

You will find in the contract the stipulation that these plants should be maintained in operating conditions and also that the holders should be used for leveling the take of gas from the natural gas pipe line.

As I recall it, there were about 53,000,000 cubic feet capacity in holders which was spread out over some three [fol. 2023] or four or five holder stations and they were to be kept in operation to smooth out the takes of gas from the transmission line.

The contract was signed on August 31, 1935 and we started to get rights-of-way in Indiana and Ohio beginning that fall.

The Michigan Gas Transmission Corporation was organized, I believe, on November 4, 1935, but the contract could not be considered binding until after the consent decree had been signed, which was late in January, 1936. If my memory serves me right, it was January 29.

Construction on the line, we proceeded to get rights-of-way all the way through to Detroit, planning to utilize the existing pipeline of the Indiana Gas Transportation Company which extended from Davaa to a point near Zionsville north of Indianapolis and then on to Muncie.

That line was a 20-inch line, as I recall it, as far as Zionsville and then 18-inch on to Muncie, but only the part as far as Zionsville was to be utilized in the construction of the Detroit line. That was a total distance of about 70 miles, and from there on to Detroit it was about 230 miles, through Indiana, the northwest corner of Ohio, and some distance in Michigan.

[fol. 2024] That meant that we had to build 230 miles by the middle of the summer. Work couldn't start until early in April on account of the muddy condition of the soil. There were two contracts, one was with the Bibb Construction Company, who built the line as far as the Michigan-Ohio line, the other was the United Engineers and Constructors who built the line in Michigan. I have forgotten exactly that length, but I think it was about 65 miles.

Work was started early in April and at one time I think there were over 3,000 men on the job and they finished the job and got gas turned on, I think, on July 7, 1936. Actually, it was officially turned on just a few days later, but immediately Detroit started their change-over they had some 425,000 or 430,000 customers whose burners had to be adjusted for natural gas, and that work was started in July, doing the work a section at a time. I think they divided the town into 26 sections, if I remember right and the work proceeded expeditiously until sometime in December when the change-over was completed and made effective January 1, 1937, at which time they were using complete straight natural gas.

[fol. 2025] In the meantime or shortly after that, we discussed the question of house-heating gas. As all operating men know, the load factor of house-heating gas is very low. It is around 26 to 28 percent and it is not particularly attractive business to the distributing company because it involves a large peak and in the case of Detroit with their demand and commodity rate it would involve a very high charge for that type of gas because on that load factor it would amount to around 65 plus cents per thousand feet of gas, so we concluded at that time that in order to develop the house-heating business in Detroit, which was good business as Detroit is a good market up to a certain point, that is, it is good business up to a certain point, we suggested a supplemental contract which fixed the load factor of house-heating gas at 50 percent, which meant a price of 4 cents per therm, a flat price of 4 cents per therm for house-heating gas. When I say "therm," I mean 100,000 B.t.u., which is equivalent to approximately 100 feet of gas, natural gas, so 4 cents a therm would be the equivalent of approximately 40 cents for 1,000 cubic feet.

It was stipulated in that supplemental contract that Detroit should have 20,000 house-heating jobs under that contract and more to be added later as the market grew and developed and in accordance with the conditions at the time.

That business developed very rapidly, and starting out [fol. 2026] with around 500 house-heating jobs Detroit developed 20,000 jobs in the first two or three years and that contract was extended to 25,000 jobs, which I believe is now the present requirement.

In general, a house-heating job takes from 1700 feet to 2000 feet per maximum day so that 25,000 jobs would be the equivalent of 50,000,000 feet demand in one day.

Since that, due to the tremendous building activity in Detroit, there have been added a total of about 47,000 jobs at present, so the total take of natural gas in one day for house-heating only would be on the order of 80,000,000 feet. I cite those figures to give you some idea of the tremendous loads involved in taking care of that kind of business.

I think that brings us down to date. There has been various other supplemental contracts and while the first contract called for 90,000,000 feet per day, subsequent amendments have brought it up to 125,000,000 feet per maximum day, that is the capacity now that Detroit is entitled to take from the pipeline. I think that covers the point.

Mr. Baldrige: I would like to clear up something for the record. You say you signed a contract in 1935. You mean the 1935 contract was signed between Detroit City Gas Company and the Panhandle Eastern Pipe Line Company?

The Witness: Oh, yes, I was acting as agent for Panhandle Eastern and Burt Bay was president and he signed the contract in Detroit. He, of course, was familiar with what we were discussing and we kept him fully posted at all times as to our progress.

Mr. Baldrige: Just to clear the record, also, the contract of March 17, 1936 was a contract which was signed

between Panhandle Eastern Pipe Line Company and Michigan Gas Transmission Corporation and that was the one which had to be approved and was approved by Mr. Gano Dunn as trustee.

The Witness: That is correct, I omitted to mention that Gano Dunn had been appointed trustee of Panhandle Eastern Pipe Line Company under the consent decree and the contract between the two companies, between Michigan Gas [fol. 2028] Transmission Corporation and Panhandle Eastern Pipe Line Company, dated March 17, 1936, was approved by Gano Dunn as trustee and as I recall it was also approved by the Department of Justice. That is the contract that is now functioning between the two companies for a good share of the gas that is hauled by the Michigan company from Dana to Detroit and to other customers along the line.

There are some contracts that are made directly between Michigan Gas Transmission Corporation and customers in Indiana. I believe those are all listed in the record now.

[fol. 2030] By Mr. Porritt:

Q. Mr. Beckjord what have you to say regarding compressor station erection on this line?

A. Well, to begin with the first compressor station was at Montezuma with two units of about 2600 horsepower.

[fol. 2031] That was the first winter. The second winter Zionsville station was constructed and the reason for the step-by-step construction method was that we were endeavoring to build capacity only as needed and this was later followed by additional units in those two stations and finally the construction of the Edgerton compressor station near Fort Wayne, Indiana, so that all three stations, Montezuma with six units of 7800 horsepower, Zionsville with 5 units of 6500 horsepower, and Edgerton with three units in active operation now and two more will be completed probably in December of this year, making 6500 horsepower there,—I think that adds up to 20,800 horsepower.

Q. Can you say what the capacity of the line was that was available for the winter period of 1937 and '38?

A. I think, to begin with, the capacity was about 70,000,000 feet of which 58,000,000 was for Detroit and then, subsequently, it was boosted up to 90,000,000 feet with about 83,000,000 for Detroit and in 19—perhaps I had better refer to a paper to make sure I have got that. In '36-'37 it was 70,000,000 feet, 58,000,000 for Detroit; '37-'38 it was 109,000,000 feet with 84,000,000 for Detroit; in '38-'39 it was 123,000,000 feet with 90,000,000 for Detroit; and in '39-'40 the present capacity is approximately 160,000,000 cubic feet of which 125,000,000 is allocated to Detroit. That is daily capacity.

[fol. 2032] Q. Yes. What transmission facilities were added to increase this capacity?

A. Well, to begin with we utilized the 20-inch line already there from Dana to Zionsville, and later on that was looped in two jumps, the first one was, well, from the period I will put it '37 to '39. That 70 miles of line was looped with a 24-inch seamless steel line from Dana to Zionsville, which totals about 70 miles, and that completely loops the old line, the old 20-inch line.

Now, I might say that the new line to Detroit from Zionsville to Detroit is built for maximum working pressure of about 600 pounds. The line is designed for 700 pounds. It is a seamless steel line good for 700 pounds, but it is currently operated up to 600 pounds.

The line from Dana to Zionsville which was built about ten years ago in 1931 was built according to the then standards of construction for about 350 pounds pressure. That is, in general, the operating pressure that is used on the Columbia system from West Virginia up into Ohio, Kentucky and Pennsylvania and so forth.

It was felt advisable to use that line until its capacity was used up, first in order to save time because we were working against time to get gas to Detroit by July 1, 1936 and, second, to save the investment cost.

I believe, as I recall it, the total investment cost of the [fol. 2033] Indiana Gas Transmission Corporation which was taken over by Michigan Gas was approximately \$1,800,000 or \$1,900,000, I don't remember the exact figure, but that is in the record.

That was done to save time and to save the investment cost, but now that 20-inch line is completely looped with a 24-inch high pressure, seamless steel pipeline.

The total costs of this investment, this is the additional investment, is around \$10,000,000, including the compressor stations and the transmission lines which are built to Detroit.

With the Indiana Gas Transmission system taken into it, the present investment cost totals around \$12,000,000. The exact figure is in the record.

[fol. 2034] By Mr. Porritt:

Q. What tests have been conducted on the pipeline?

A. The original line, as I say, from Dana to Zionsville was constructed for 350 pounds, but that has since been tested up to 450 pounds and has proven very satisfactory.

There were some few leaks developed, but they were easily repaired.

The line from Zionsville to the Michigan-Ohio line is tested up to 600 pounds pressure and from there on in it has been tested up to 500 pounds for operating reasons, so the whole line is now fully tested and operating under those pressures I speak of.

[fol. 2037] By Mr. Porritt:

Q. What have you to say in regard to future construction?

A. Well, the line as now built has a capacity of approximately 160,000,000 feet and, of course, as the additional contracts that Panhandle has made up in Michigan come on and as additional growth occurs over the system, more compressors will have to be added and some more line-looping on the 22-inch section of the line.

[fol. 2038] We haven't made any great detailed estimates on the increased construction to be done, but on the



basis of the estimates that Panhandle made in their presentation here, we will have to spend about six and a half million dollars to bring the line up to sufficient capacity to meet their requirements. That is for looping and compressors, additional compressors.

Q. What equipment have you ordered for installation in the coming year?

A. Well, Montezuma is our key station and there are six units there now and we have ordered two more units. I believe they are working on 1300-horsepower units, which are promised for delivery some time in the middle of next year. It is becoming very difficult to get delivery on these units now. We have ordered them a long way in advance, hoping to get them. I believe they have an A-10 priority.

I am not clear as to just what that means, but I sincerely trust that they will be delivered next June so they will be in in time for the peak load next winter, that is, the winter following this one.

[fol. 2041] Now, Detroit is what you call a one-industry city. It is practically all automobiles, and I have seen the time in my experience in Detroit when things were just as flat as a pancake, along in 1932 or thereabouts. As I recall it, the equivalent sales of gas in Detroit dropped to about 9,000,000,000 feet equivalent. Now they are up to say, 24,000,000,000 feet.

Well now, that is some spread and if you drop the sales of Detroit down to, say, half of what they are now, it would involve a very serious loss to the transmission company from Texas, which has built the capacity to supply the full load.

[fol. 2042] Now that, in my opinion, is a definite hazard. It may happen again. In fact, if the economists are right the depression after this war is going to be the worst that the world has ever seen. I don't like to be a pessimist and neither am I a prophet, but you can't help but read the future from the past sometimes.

Likewise, we are meeting now, in our own system, quite a bit of competition from electricity. There are electrical

furnaces, both steel and brass, and they use great quantities of power. There are electrical heating furnaces for heat treatment of metals and with the tremendous amount of electrical capacity that is being installed now all over the country, when the war is over, believe me, there is going to be a tremendous amount of that energy for sale at very low prices.

The coal cost per kilowatt hour will probably be less than 2 mills and once industrial people get accustomed to using electricity they are very apt to continue to use it, [fol. 2043] and I would regard that as a very serious hazard in the possible future competition with natural gas, so that I don't think that anybody can rest assured that natural gas has a cinch in any industrial market. It is a very real hazard.

[fol. 2056] Mr. Littman: Hasn't Panhandle Eastern been installing compressor equipment along their lines in order to increase capacity?

The Witness: Yes, I believe they installed two or three compressors this last summer.

Mr. Littman: Isn't that going to give some increased capacity for this winter?

The Witness: Well, that may be on certain portions of the line, but my understanding is that the capacity at Dana at the point of delivery to us will be substantially the same as it was last winter.

[fol. 2057] Mr. Littman: Have you installed any compressor station equipment on your Michigan Gas Transmission System?

The Witness: Yes, we are putting in two more 1300 horsepower units at Edgerton station that is largely to take care of the hourly peak.

Mr. Littman: When will those be ready?

The Witness: I think it will be ready before Christmas, I hope.

Mr. Littman: Of course, that will increase your capacity?

The Witness: No, unfortunately not, that takes care of the hourly peak, but it does not necessarily mean a greater daily peak capacity for the reason that Detroit sometimes takes gas, I think it is, at the rate of seven or eight million feet per hour.

The hourly rate, you see, is directly involved, because ~~Edgerton~~ station is only about 118 miles or so from Detroit and you can't pack the line a great deal in that distance and when the hourly peak is so high you have just [fol. 2058] got to keep the gas coming through all the time.

[fol. 2108] Trial Examiner: At this time, we will receive in evidence the description of the physical property prepared by Mr. Young and marked for identification as Exhibit 77 and the System Map of the Michigan Gas Transmission Corporation marked for identification as Exhibit No. 78, without objection.

[fol. 2119] P. McDONALD BIDDISON, having been previously sworn, resumed that stand and testified further as follows:

[fol. 2120] Trial Examiner: The Trial Examiner has assumed that a ruling on objections to reproduction cost evidence would be timely now when the cross-examination is about to commence.

Since the objection was first made, I have given renewed study to the Commission's precedents, to its rules and regulations and to such information as is available concerning the Commission's views and, after this study, I have concluded that the Trial Examiner should not burden the Commission at this stage of the matter with any presentation of this question for an interim formal ruling.

However, before any ruling is announced, I wish to give any further opportunity counsel may desire for further

argument, both in support of the objection or in opposition to it.

Counsel has presented fully in the previous sessions, considerations which are pertinent. I would, nevertheless, be glad to hear further from Commission's counsel if they have anything further to add and I will be particularly glad to hear further from counsel for the defendant company as to any facts in this record which distinguish this case from the Chicago District Electric Generating Company case to which frequent reference has been made and [fol. 2121] the reason why such facts, as you think may be present in this record to distinguish this case from that, would take this case out of the rule announced in that case and present this proceeding as something other than what the Commission has characterized as a normal rate proceeding.

• • • • •  
Mr. Littman: If your Honor please, we have heretofore stated, I believe quite fully, our reasons in support of our objection.

In view of the fact that your Honor has stated that you shall rule, I believe that it is your Honor's duty in these circumstances to follow the decisions and orders of the Commission.

I believe the precedent to be followed in this case clearly is the opinion of the Commission in the Chicago District Electric Generating case. I believe if that precedent is followed here, your Honor is required to rule out all evidence on reproduction cost.

I think all I need add at this time is that notwithstanding the repeated requests of your Honor that counsel for Panhandle Eastern come forward with facts or [fol. 2122] evidence or arguments that will or might distinguish this case from the Chicago District Electric Generating case, they have not done so.

Considerable evidence has been adduced by Panhandle Eastern since the objection was originally made. I have examined that evidence and I am unable to find any facts that have been presented that would warrant a finding by

your Honor that this case has been shown to be other than a normal rate proceeding within the meaning of that term as used in the Chicago District Electric Generating case:

So, in view of the record, the Panhandle Eastern Pipe Line Company, having rested, and in view of the precedent established by this Commission, I believe that your Honor, under these circumstances, should sustain the motion to [fol. 2123] exclude reproduction cost evidence in this case.

Mr. Wheat: I wish to state, Mr. Examiner, that Panhandle Eastern has fully spread upon this record the reasons why it believes that a ruling a favor of the objection and the motion of Commission's counsel would be a denial of its rights under the Federal Constitution.

There is one additional point which I think should be made upon the record before any ruling is had and Mr. Culton, my colleague, would like to make that statement now.

Mr. Culton: The point, Mr. Examiner, is this:

The Panhandle Eastern Pipe Line Company, until the passage of the Natural Gas Act, was a private concern. Since the passage of the Natural Gas Act, its properties have been devoted to public use.

It recognizes the effect of the Natural Gas Act in that respect.

Now, for the first time, its rates are being subjected to regulation. A determination of the fair price for the commodity which it sells, necessarily, under the theory under [fol. 2124] which this case has proceeded requires an investigation into the earnings of the company and whether or not it is making undue profits.

Frequently it is said that investment should be the base from which that conclusion is determined. If that is true, then the investment of a company which was formerly a private concern and now has its property devoted to public use for the first time must, in our opinion, be the value of that company's property at the time it was either subjected to regulation or it became a regulated concern under the passage of the Natural Gas Act.

Whether or not that value should be the value of its property as in 1938 or the value of its property at this time is not necessary to be here discussed because, under either of those bases, value or reproduction cost new is admissible as a circumstance from which we can determine the present value of its property.

Whether it be an absolute standard for the present value of its property or an absolute standard for its value in 1938 is a different question just as original cost is a matter for consideration in determining the value of its property, both now and in 1938.

[fol. 2125] Therefore, we insist that since our rates first became subject to regulation in 1938 and first became subjected to regulation under this particular proceeding, we are entitled to show the value of its property, originally, its value in 1938 and its reproduction value at this time, so that the Examiner and eventually the Commission may obtain a knowledge of the present fair value of the property so as to determine whether or not the rates now being charged are such as result in unusual and excessive returns on the value of the property which is applied to public use.

That is a reason which we offer in addition to those which were referred to by Mr. Wheat at a former time. We insist that the thing that the Commission is seeking is not to determine whether or not our rates could be reduced [fol. 2126] without confiscation but whether or not, treating us fairly and the public fairly, a present fair value of our property should be determined and a present fair rate of return applied to that fair value.

Mr. Liftman: If your Honor please, I think a complete answer to the statement made by counsel for Panhandle Eastern was made by this Commission in the Chicago District Electric Generating Case, Docket No. IT-5500, Opinion No. 63, wherein the Commission said as follows:

"We have been authorized by Congress to determine the [fol. 2127] actual legitimate cost of utility properties and



the depreciation thereon, viz., the prudent investment. We have been directed to determine other facts bearing on the fair value of such property, such as reproduction cost, when found necessary for rate-making purposes. There is nothing which makes a determination of reproduction cost necessary for rate-making purposes in this proceeding. On the contrary, such a determination would be not only valueless, but, in fact, obstructive of the orderly regulatory process.

"We concluded, therefore, that the rate base in this case is the actual legitimate cost of the property used and useful in furnishing the service subject to our jurisdiction, less the existing depreciation in such property, plus the working capital necessary to render such service."

I respectfully submit that inasmuch as Panhandle Eastern has presented no facts or arguments, which would in any manner tend to distinguish the instant case from Chicago District Electric Generating case, your Honor is bound by the Commission's decision in the Chicago District Electric Generating Corporation proceeding, and should sustain our motion to exclude reproduction cost.

Trial Examiner: Anything further, gentlemen?

Mr. Wheat: Nothing further. We have stated our points in full.

Trial Examiner: In answer to Mr. Wheat's remarks and [foi. 2128] supplementing what the Trial Examiner stated at the outset, I would like to add that as the Trial Examiner is advised, it is the considered view of the Commission that procedural due process does not require the certification to the Commission of questions concerning the admissibility of evidence with formal action thereon by it during the progress of a hearing or a proceeding.

The correct view upon this subject seems to be that the Trial Examiner should rule upon the admission or exclusion of evidence in proceedings referred to him, in accordance with the opinions, orders and rules of the Commission, unless the Trial Examiner himself upon and only after a special showing by a party in a proceeding should determine that important distinguishing facts have been shown and that a necessity therefore exists for certifying

the question or questions relating thereto to the Commission for a special ruling or instructions.

To express this view in another way, it is considered that the Trial Examiner should rule upon all matters of admissibility of evidence in accordance with the opinions, precedents and Rules of Practice and Regulations of the Commission, applying these authorities as he understands and interprets them, and should take no question on the admissibility of the evidence to the Commission for special instructions and unless and only after it should appear to him that a party in a case has made such a special showing in some particular matter upon which it is necessary [fol. 2129] to rule as would seem to require a variation in the regular procedure and which apparently takes the case in hearing out of the effect and purview of the rule, principle or precedent already established.

In the instant hearing, where the respondents are seeking to introduce evidence of cost of reproduction in a case which to the Trial Examiner appears to be a normal rate case and similar in its material aspects to the Chicago District case, in which the Commission has in the past ruled out evidence of cost of reproduction, it is concluded that it is the Trial Examiner's duty to exclude such evidence on his own responsibility and without seeking special instructions from the Commission.

It appears to the Examiner that the Respondents' offer of such evidence has not succeeded in so differentiating and so distinguishing the evidence in hearing from evidence in the case in which the Commission ruled out such evidence and have not shown such necessity for this type of evidence as to make it necessary to carry the question to the Commission for special instructions.

The Trial Examiner feels that no such distinction or differentiation has been made as would take the case at bar out of the effect and principle declared by the Commission in the Chicago District case.

It is, therefore, the ruling of the Trial Examiner that the [fol. 2130] objections to the proffered evidence are sustained. The motion to strike the testimony relating to reproduction cost is also sustained and all evidence of re-

production cost will be excluded ~~from~~ the record of this case.

Trial Examiner: Of course, under this broad ruling, there is a definite exclusion of your proposed Exhibits Nos. 39 and 39-A, 37 and 37-A, and, while there may be other exhibits involved, in such event the broad ruling will, of [fol. 2131] course, determine as to them.

[fol. 2132] Mr. Wheat: May I suggest, Mr. Examiner, that Panhandle Eastern Pipe Line Company would like the record to show an exception, first, to the broad ruling which the Examiner has made in connection with the objection and motion of Commission counsel;

May the record show those exceptions?

Trial Examiner: Certainly, Mr. Wheat.

Mr. Wheat: And we would like to have it understood [fol. 2133] that our exception goes as a separate exception to each exhibit which is or may be comprised within the ruling so made, and to each specific item of testimony which may hereafter be found so to be comprised.

Trial Examiner: The matter of separate exceptions applies to matters which you have heretofore noted, namely, the ruling and the exception to the reference in the other matters included in your first request, but as to exceptions on rulings not yet made, namely, to the admission or rejection of specific exhibits, the exception is not yet applicable.

Mr. Wheat: May I ask, Mr. Examiner, in that connection, whether your statement means there is not now a specific ruling that Exhibits 39 and 39-A and 37 and 37-A and any other exhibits which may have been mentioned by counsel be excluded?

Trial Examiner: The Trial Examiner, I think, remarked that we know definitely that Exhibits 39 and 39-A, 37 and 37-A, are excluded under the broad ruling and, I believe, also Exhibit 62. Is that not your—

Mr. Wheat: (Interposing) I think that was the substance of counsel's objection.

Trial Examiner: (Continuing) Exhibit 62 was not included in the original objection but I assume it would clearly fall within the broad ruling. That was Mr. Biddison's study of depreciation and present fair value based upon the reproduction cost new less depreciation.

[fol. 2135] Cross Examination

By Mr. Littman:

[fol. 2145] Mr. Littman: Mr. Examiner, I ask that a document entitled "Form A-2 For Corporations, Securities and Exchange Commission, Washington, D. C., Registration Statement Under Securities Act of 1933, Panhandle Eastern Pipe Line Company, Filed November 18, 1940, Effective Date January 29, 1941, Registration No. 24597" be marked for identification with the next number.

Trial Examiner: It will be marked for identification as Exhibit 106.

(Document referred to was marked exhibit No. 106 for identification.)

By Mr. Littman:

Q. Mr. Biddison, I hand you Exhibit 106 for identification and refer you to page 8-5 of the balance sheet notes of that document and I shall read from Note A (1) and ask you to state whether I am reading correctly from that [fol. 2146] exhibit. "A (1) Property plant and equipment is stated at cost except for \$2,417,948.52 thereof assigned by the board of directors to assets acquired as of August 31, 1930 as a capital contribution, and intangibles are stated at cost except for \$2,398,402.19 thereof assigned by the board of directors to gas sales and purchase contracts acquired as of August 31, 1940 as a capital contribution."

Have I read correctly from that document, Mr. Biddison?

A. Yes, Sir.

Q. In view of the statement which I have just read to the effect that \$2,398,402 of the book figures which you

have used for cost of gas sales and purchase contracts does not represent cost, do you still feel that your claim for the amortization thereof is just and proper?

A. Well, I don't know that this says it doesn't represent cost.

Q. It says, does it not, that the intangibles are stated at cost except for \$2,398,402.19, Mr. Biddison?

A. It does so state, but it does not state that the item of \$2,398,402.19 does not represent cost.

Q. Have you seen that statement before?

A. I think so.

Q. Did that statement put you on guard and cause you to investigate or want to investigate it?

A. No, because I have made no investigation whatever [fol. 2147] to determine cost of property. I have taken a statement of property furnished to me by the controller of the company and have developed the schedule to amortize property shown on that schedule.

Q. In view of that statement certainly there was some doubt as to whether it represented cost, to say the least, was there not, Mr. Biddison, in your mind when you read it?

A. No, and there isn't now. I do not know but it is my understanding that it represents a cost, a portion of the cost of acquiring certain items.

Q. You certainly didn't give the public the benefit of the doubt in that matter, did you, by investigating whether it did or did not?

A. I didn't give anybody the benefit of the doubt because I did not investigate. I did just what I stated. I took the statement furnished me by the controller of the company and worked out the schedule from that.

Q. Now, Mr. Biddison, if it should be established by evidence other than that which has already been called to your attention that part of this amount of \$2,330,286, which you have amortized in line 5 of page 3 for gas sales and purchase contracts represents—

Mr. Wheat: (Interposing) You mean line 25.

By Mr. Vittman:

Q. (Continuing) Line 25 represents other than investment [fol. 2148] ment you will agree, will you not, that your allowance to that extent should be reduced?

A. I have so previously stated.

Q. Now, Mr. Biddison, looking again at that figure for gas sales and purchase contracts, I note that you have amortized that amount over a ten-year term. I also note that that is the only ten-year term that you use in this entire exhibit.

Will you tell us why you used a ten-year term rather than a 34-year term or a 26-year term or other terms shown on that page?

A. Where I am amortizing in this instance an item of intangible value, I think it is customary in utility practice to amortize such items generally over short terms. It is being so amortized by Panhandle Eastern in actual practice. Those are the moving reasons for the adoption of a ten-year term.

Q. Is your claim for \$293,028.64, annual accrual for gas sales and purchase contracts shown in column "I", included in the total of \$887,646.60 shown at the bottom of page 3 of Exhibit 66? You will find that, too, on line 27, Mr. Biddison, the total that I read. A. Yes, it is.

Q. That total of \$887,646.60 is carried over to page 1 in line 1, column "C" headed "Annual Accrual" is it not? [fol. 2149] A. It is.

Q. Now, as of what date of the year 1931 is the amount of \$887,466.60 placed into the sinking fund shown on page 1 of Exhibit 66? A. At the close of the year.

Q. The close of the year 1931, is that correct, December 31, 1931?

A. Yes, sir. Its first interest earning was during the year '32.

Q. I see. And is this same amount so set aside on December 31 of each year thereafter? A. Yes, sir.

Q. How many times?

A. Well, it is set aside ten times.

Q. That is down to and including December 31, 1940?

A. That is right.

Q. Isn't it a fact, then, Mr. Biddison, that the sum of \$293,028.64 annual accrual for sales and purchase contracts is shown on page 1 to have been set aside ten times by



December 31, 1940 and, therefore, completely amortized by that date? Is that correct? A. Yes.

Q. We don't need to include it then in 1941, do we?

A. Yes, sir.

Q. If page 1 is to be believed—

[fol. 2150] Mr. Wheat: (Interposing) What was the answer, Mr. Biddison?

The Witness: Yes, sir.

By Mr. Littman:

Q. Yes it does or yes it doesn't?

A. It is to be included because the item is not yet amortized.

Q. Mr. Biddison, you just said a minute ago that page 1 shows it to have been completely amortized by December 31, 1940, did you not?

A. No, I did not say it showed it to have been completely amortized. Page 1 shows that if this practice had been in effect it would be amortized. It is not amortized in fact at this date.

Q. Well, Mr. Biddison, what do you mean to show by page 1, then, where you show a reserve and the accruals in each year and the balance as of December 31, 1940? What is the purpose of it?

A. Simply to show what that would have amounted to had this practice been in effect from the beginning of operations of this company.

Q. Well, does it mean something or doesn't it mean something? A. It means what I have stated it to mean.

Q. Well, you are suggesting, are you not, when you [fol. 2151] claim these amounts annually and show this in reserves, that this is the method that be followed?

A. I am suggesting that this be the method to be followed, yes, sir.

Q. Ten years means that it should have been done, doesn't it, that is, that it should have been amortized?

A. I don't know whether it should have been or not.

Q. Well, at least the way you have set it up on page 1, it would be amortized, wouldn't it?

A. If it had been amortized as shown on page 1 it would be amortized. [Is] is, in fact, not amortized at this date.

Q. As shown by you on page 1 it would have been amortized, Mr. Biddison?

A. If it had been amortized as shown by me on page 1 it would now be amortized, yes. It was not so amortized and is not amortized at this date.

Q. Well, a good part of it has been amortized, hasn't it, as a matter of fact, Mr. Biddison? A. Yes.

Q. How much of it has been amortized by the company or didn't you investigate that either?

A. Yes, Mr. Watkins' exhibit will show how much residual balance there is of that account. On page 2 of Exhibit No. 52, by Mr. Watkins, is shown data relative to the [fol. 2152] matter about which you are inquiring.

Q. Well, suppose you tell us what that means, then; what data you are referring to.

A. Well, I am not in a position to explain Mr. Watkins' exhibit, but I will refer you to gas sales and purchase contracts, line 40, column "M" and to reserve for amortization of gas sales and purchase contracts, line 42, column "M".

Q. Yes, now which of those two figures did you use in your Exhibit 62 for amortization purposes?

A. I used line 40.

Q. That is, you used the figure of \$2,930,286.40, did you not? A. Yes, sir.

Q. That is, you didn't deduct the reserve shown in line 42 of page 2 of Exhibit 52 in the amount of \$1,611,657.30 did you? A. Certainly not.

Q. It had been written off prior to that time, the last amount that I read had been written off prior to June 30, 1941, had it not? A. It doesn't so show on this statement.

Q. Oh, it doesn't? A. No, sir.

Q. Well, answer this question, whether it does or doesn't [fol. 2153] show it, do you know whether or not that amount has been written off?

A. Oh, all I know about it is that that amount is carried on [thier] current monthly and annual operating statements as not being written off.

Q. Will you turn to Exhibit 69, please?

Assuming that that amount had been written off, it would have to be deducted from your \$2,930,286 figure which you amortized, would it not?

A. If it had been written off as not representing investment, yes.

Q. That is, you are not suggesting and you wouldn't suggest, would you, Mr. Biddison, that the rate payer pay an amortization allowance annually on property that has been written off?

A. Well, I might, I don't know, I would have to know the specific case. I am not trying to do that in this particular instance that we are talking about.

Q. Well, suppose it had been written off. Suppose \$1,611,657.30 of this amount had been written off by the company, written off its books prior to June 30, 1941. Assuming that to be the fact, would you still claim that it would be proper and just to have the rate payers pay an annual allowance for amortization on that amount written off?

[fol. 2154] A. I don't suggest that the rate payers pay any annual allowance for anything except simply to pay for gas. That is the only suggestion that I make about the rate payers.

Q. Well, aren't you suggesting that this Commission adopt your annual accrual figure for amortization of Panhandle Eastern Pipe Line property in the amount of \$1,450,299? A. Yes, sir.

Q. And aren't the amounts we are talking about included in that total?

A. Yes, sir. And I suggest that it is proper to include in that total the amounts required to continue the amortization of that original amount until the amortization is completed.

Q. Of the original amount? A. Yes, sir.

Q. Of \$2,930,286? A. Yes, sir.

Q. Well, Mr. Biddison, the original amount of that account as shown on page 2 of Exhibit 52 in line 40 was \$13,398,402, was it not, in 1931?

A. \$13,409,544.31, I believe.

Q. You didn't provide for the amortization of that original amount, did you? A. No, sir.

[fol. 2155] Q. Why?

A. Because of that original amount there is only \$2,930,286.40 presently existing on the books of account as invested.

Q. That is to say, you didn't use the \$13,000,000 figure because all but what you claim to be \$2,930,000-odd was written off?

A. Yes, and I understand that the bulk of that did not constitute cost. That is my understanding of it.

Q. It was write-up, wasn't it?

A. I understand it was, I don't know. I didn't make a detailed investigation to find out.

Q. Which was another reason why you didn't want to include the entire \$13,000,000 of cost?

A. Well, it is not there any more so there is no reason for me to include it.

Q. Well, the thing we are inquiring about now, of course, is to ascertain whether the \$2,930,000 that you used is all there, too.

A. It so shows on the statement furnished me.

Q. All right, and, of course, if you misinterpreted that statement to the extent that \$1,611,000 had been written off, if it should be shown that you misinterpreted it that way; your annual allowance would have to be reduced [fol. 2156] accordingly, wouldn't it?

A. I know that there are substantial amounts being accrued annually on the books and that the amount accrued to date has not amortized the \$2,900,000-plus, therefore, the allowance should continue until the amortization of the original amount is completed.

Q. But it has amortized \$1,611,000, has it not?

A. I believe that is correct.

Q. All right, turn, if you please, Mr. Biddison, to Exhibit 69, page 2. Refer, if you will, to column "C", lines 12 and 13, which read—well, refer to those and tell me how much you have included in the column "C" entitled "As Per Books" in that exhibit. That is, how much have you included for gas sales and purchase contracts, of course?

Mr. Wheat: You are referring to lines 12 and 13 of page 2 of Exhibit 69, are you?

Mr. Littman: That is correct, Mr. Wheat.

The Witness: That includes gas sales and purchase contracts in toto in the amount of \$2,930,286.40 and I have shown a deduction of the reserves of \$1,611,657.30 to arrive at the amount of \$1,318,629.10 as being gas sales and purchase contracts less the reserves.

By Mr. Littman:

Q. As being gas sales and purchase contracts "As Per Books" Column "C"? Is that correct?

[fol. 2157] A. No, sir, as being gas sales and purchase contracts less reserves as per books.

Q. Yes, well you deducted the reserves of \$1,611,657 on page 2 of Exhibit 69 as you state, did you not? You deducted that reserve here?

A. Yes, and so explained what it is.

Q. Yes. Why didn't you deduct it for purposes of amortization?

A. Because the amount that has to be ultimately amortized is \$2,930,286.40 and I think it should be amortized over a ten-year period.

Q. Even though part of it has already been amortized and written off?

A. Even although there has been an accrual in their reserve account for part of it.

Q. And even though you suggest by your Exhibit 69 that the book figures to be used by this Commission for rate purposes should exclude the amount of the reserve?

A. I made no suggestion of any such nature with respect to my Exhibit No. 69.

Q. What do you show Exhibit No. 69 for at all then, what is the purpose of it?

A. The purpose of it is to show the amount to be deducted from a statement of cost as per books for the amount of depreciation which has occurred in the property.

[fol. 2158] Q. Well, would you say, Mr. Biddison, that it is a correct statement that that amount of \$1,611,657 has been extinguished from the books of the company?

A. No.

Q. You wouldn't say that?

A. No. My understanding is that it is in the reserve account.

Q. I refer you, Mr. Biddison, to page S-7 of Exhibit 106 which is "Notes to Income Account" and I am going to read it. I am sorry I don't have another copy.

"Note B. The registrant has provided amortization of gas sales and purchase contracts in the amount of \$24,419.05 per month which will extinguish the net ledger balance at December 31, 1935 (\$2,930,286.40) over a period of ten years. Of the original amount of gas sales contracts, other, \$371,000 is being amortized."

Well, the latter part, of course, has nothing to do with this particular item. First, have I read correctly from this statement?

A. Yes.

Q. Mr. Biddison, I will ask you to turn to page 1 of Exhibit 66, again. You have amortized the gas sales and purchase contracts over a ten-year period on a straight-line basis, have you not?

A. Yes, sir.

[fol. 2177] Q. I refer you, Mr. Biddison, to Mr. Davis' Exhibit No. 76, Page 4, and ask you whether the following statement is the one on which you based the purported life of 34 years:

"The combined gas supply controlled by your company"—I think perhaps before I read that, for the purpose of the record, I had better state that this is a part of a letter addressed by Ralph E. Davis, Inc., Engineers, to the Board of Directors of Panhandle Eastern Pipe Line Company, New York, New York, dated November 12, 1940:

"The combined gas supply controlled by your company in the Amarillo and Hugoton fields is, in our judgment, adequate to supply its present markets and any reasonably anticipated increase in the gas requirement of said markets for a period of more than 25 years."

Is that the statement on which you relied?

A. I think that is not the sole statement. If I may be allowed to refer to the exhibit?

Q. Before you look up another statement, let's clear this up, Mr. Biddison, if you do not mind.

Is that one of the statements on which you relied?

A. Yes.

Q. All right, you may refer to the exhibit and tell me any other statements or data that you relied on in addition to that, if you wish.

A. The immediately preceding paragraph:

[fol. 2178] "Both the Amarillo and Hugoton fields constitute reservoirs of gas from which gas withdrawals will not



necessarily be proportional to the reserves controlled by various producers. The reserves are, we believe, sufficient to meet the combined anticipated requirements for pipe line, carbon black and other uses for a period of more than 25 years."

Q. The statement to which you just referred has to do with the Amarillo and Hugoton field as a whole, does it not?

A. Yes, sir.

Q. And the one I read had to do specifically with the reserves of Panhandle Eastern Pipe Line Company?

A. That is correct.

[fol. 2185] Q. Is Panhandle Eastern Pipe Line Company going to discontinue its leasing and its exploration activities as of June 30, 1941?

A. Not so far as I know.

Q. They are going, so far as you know, to continue and are presently continuing to explore and search for gas, are they not?

A. Yes, and to consolidate blocks and to avoid the expense of unnecessary drilling and of unnecessarily long and expensive gathering systems.

Q. Yes, they are going to go out and secure new gas reserves, aren't they?

A. I expect they will.

[fol. 2195] Q. Mr. Biddison, when did you first become employed by Panhandle Eastern Pipe Line Company?

A. I believe the first work I did for them was in the spring of 1937. I am not regularly employed by Panhandle Eastern Pipe Line Company.

Q. You are a consulting engineer for them and are called in from time to time to consult with respect to various phases of the operations of the property, are you not?

A. Yes, when they feel the need of my services.

Q. What have your duties been, generally, in that respect? I am not talking about this rate case now. We are all aware of your work in the rate case, but what have been your duties, generally, in the capacity of consulting engineer in the past?

A. Well, I have made some studies in the past on the question of the amounts to be accrued to reserve accounts.

Q. You mean reserve for depreciation or other reserves too?

A. For depreciation and depletion and amortization.

Q. May I interrupt there and ask for what years you [fol. 2196] made your recommendations with respect to accrual rates for depreciation reserves?

A. I have given the matter some consideration each year since 1937.

Q. Did you report to them?

A. I made no formal report to them on the matter whatever.

Q. Not in writing?

A. No, sir.

Q. Have you reported to the company orally?

A. Yes, and discussed the matter with them.

Q. Did you advise them as to what amounts they should charge, in your opinion, annually for amortization and depreciation?

A. It is more a question of my having examined what they were doing and reaching a conclusion in my own mind as to whether the amounts they were setting up were sufficient for the purpose.

Q. Did you give them any advice about whether they should or should not amortize this organization cost and miscellaneous intangible plant cost?

A. No, I think the advice I gave them was only as to [fol. 2197] whether, as an over-all matter, the amount that they proposed to set up was sufficient for the purpose.

Q. Do you remember these two items?

A. Yes, I remember considering those matters, and forming my conclusions.

Q. You say at the time you made your studies preparatory to advising the company as to annual depreciation and amortization, you studied these two items, didn't you?

A. I gave them consideration in forming my conclusion.

Q. You did not tell them, did you, or you did not advise Panhandle Eastern Pipe Line Company to make an allowance for amortization of these two items, namely, Organization and Miscellaneous Intangible Plant?

A. I did not advise them to make an allowance for amortization of any item. I advised them as to my opinion as to whether their accruals in toto were sufficient for their purposes.

Q. And what was your advice in that regard?

A. My advice was that the amounts that they proposed to set up were sufficient.

Q. For what years, Mr. Biddison?

A. I think for the years 1937, 1938, 1939 and 1940, is my recollection.

[fol. 2198] Q. What was your advice to them with respect to the accruals in their reserves for depreciation, depletion and amortization for those years?

A. For certain of those years, I advised that I thought that the amount of balances was normal for a property of that age and that condition.

Q. Do you remember which years?

A. No, I do not.

Q. Now, you stated you gave Panhandle Eastern some advice with respect to its depreciation policies.

Did Panhandle Eastern follow your advice?

A. I did not say that. I said that I had advised them as to my opinion of whether the amount they proposed to set up for these various years was adequate for the purpose or not.

Q. If the amount had been low, they would or would not do something about it, would they?

A. I do not know. I think that question should be addressed to them.

Q. Did they do anything about the depreciation?

A. (Interposing) The amounts they proposed to set up were arrived at after discussion between their employees and officials and myself.

Then, when a conclusion was reached and they proposed to set up those amounts, why, I concurred in the conclusion we reached and so expressed myself.

[fol. 2199] Q. Did they take your advice with respect to the over-all amounts to be charged annually for depreciation, amortization and depletion?

A. It was not entirely my advice. It was a conclusion reached jointly.

Q. Suppose you tell us about it, Mr. Biddison?

A. I have told you. That is all there is to it that I can see.

We discussed the matter of what they were accruing. I made some computations of what I thought it ought to be for various classes and divisions of property and, in that manner, checked their ideas of what they thought ought to be accrued, and reached a conclusion as to how much it should be in toto.

Q. And out of the welter of discussion and conference, you and Panhandle Eastern were in agreement, were you not?

A. We got into agreement finally after these discussions.

Q. When? I mean, for what years?

A. I think it was for the years 1937, 1938, 1939 and 1940. As I say, I am not certain offhand about the year 1937, but I believe those are the correct years.

Q. And you have already stated, no report was made by you in writing?

[fol. 2260] A. That is correct.

Q. No letter was written by you with respect to that subject?

A. Yes, I have written letters with respect to those subjects.

Q. Are those the letters that are contained in the Registration Statement?

A. Some of them have been used in Registration Statements, is my recollection.

Q. I take it that your answer with respect to an agreement on depreciation policy includes an agreement upon the adequacy and reasonableness and the propriety of the amounts accumulated in the depreciation reserves by Panhandle Eastern for depletion, amortization and depreciation? A. No, it does not.

Q. You did not agree with them? A. No.

Q. You did not agree at any time?

A. I have been asked my opinion on that and I have made some expression of my opinion on that.

Q. May I ask what those opinions were, sir?

A. Well, I think I had made the expression at some time or another, that I believed that the reserve balances were normal for a property of that age and of that condition.

I think I made some such statement as that in a letter.

[fol. 2201] Q. Well, can you state approximately when?

A. Well, sometime between 1937 and 1941, but I do not recall which year it was for. It may have been for more than one of those years.

Mr. Littman: Mr. Examiner, I would like to have marked for identification as Exhibit No. 107, a document entitled, No. 11488, Committee on Stock List—New York Stock Exchange, Panhandle Eastern Pipe Line Company First Mortgage and First Lien 3% Bonds, Series B, Due November 1, 1960, Dated New York, February 28, 1941.

This appears to be an application for listing on the New York Stock Exchange of \$12,000,000 principal amount of its first mortgage and first lien 3 percent bonds, Series B, dated November 1, 1940, and due [Jovember] 1, 1960.

May it be so marked?

Mr. Examiner: It will be so marked.

[fol. 2202] Q. Mr. Biddison, I read you a statement from Exhibit No. 107 for identification and ask whether it refreshes your recollection:

The formulae consistently used by the Company and its Subsidiary Companies beginning with the year 1937 to develop an amount to be recommended to the Board of Directors as a proper provision for depreciation, depletion [fol. 2203] and amortization gives consideration to the 'wasting asset' theory and provides depletion on operated leaseholds on the basis of units of gas withdrawn, amortization of investment in unoperated land rights by the use of a composite life of ten years for such land rights, amortization of gas sales and purchase contracts at a

specific monthly rate as provided in the Company's Certificate of Incorporation and in amounts to conform to the contract period in certain instances, and an amount for the other transmission system properties determined by its Board of Directors which recognizes amortization in addition to a composite rate based on the age and estimated life of the properties. The propriety of the aggregate annual provision, as well as the reasonableness of the total reserves provided to date, has been substantiated by an opinion from an independent Consulting Engineer. Unless required to do otherwise by some regulatory authority of competent jurisdiction the Company expects to continue this policy."

I have read the last paragraph on the first page of that application.

Does that refresh your recollection as to whether you are the consulting engineer referred to in that statement?

A. Well, I assume that I am. I have worked with them on that matter.

Q. You do not know of any other consulting engineer [fol. 2204] that worked on that matter in 1939 or 1940, do you? A. No.

Q. Let me ask you, does this refresh your recollection as to the date as of which you advised the company as to the reasonableness of the total reserves provided to date of Panhandle Eastern Pipe Line Company?

A. I think I did something of that sort late in 1940.

Q. It is your best recollection it was late in 1940 that you did come to that conclusion?

A. Yes, I think I advised them of substantially the same thing, maybe at other times.

[fol. 2290] P. McDONALD BRIDGSON, resumed the stand and testified further as follows:

Cross-Examination (Continued)



[fol. 2413] P. McDONALD BIDDISON; the witness on the stand at the time of the taking of the noon recess, resumed the stand and testified further as follows:

[fol. 2421] Cross-Examination

[fol. 2422] By Mr. Chamberlain:

Q. Mr. Biddison, I wish to call your attention to a portion of your testimony given yesterday in which the question was asked you with respect to the reserve account which is created under the plan of your Exhibit 68.

You were asked by Mr. Littman, as I read the transcript:

"Question: Can you enlighten us any further with respect to what is proposed to be done with it?

"Answer: Well, the money will be accrued in a reserve account and the retirement of property removed and abandoned will be charged from time to time against that reserve."

"Question: In other words, if I correctly understand you, Mr. Biddison, this annual amount of \$675,573 will be credited to a reserve each year and whatever replacements are required from year to year will be charged to that reserve?"

"Answer: Whatever retirements are made, retirement and abandonments."

That is what you intended to answer? A. Yes, sir.

Q. Now, you stated yesterday that a retirement on account of the condition of the property constituted what you called a "mortality", is that right? A. Yes, sir.

Q. Now, you distinguish that as a deterioration, or you would consider that such a deterioration as distinguished from a change that was made on account of a [fol. 2423] public requirement or inadequacy?

A. Yes, sir.

Q. Now, what are the factors which you found in your studies because of what you term "mortality of pipe"?

A. The mortality of pipe is quite largely caused by corrosion of one sort or another.

Q. Well, you said this morning, if I recall correctly, that about three-quarters of the retirements were caused by corrosion, is that right?

A. Yes, sir, that is my estimate of about the proportion.

Q. What are the factors which constitute the remaining quarter of the reason for mortality in pipe?

A. Well, there are the requirements of public authorities, inadequacy.

Some due to obsolescence.

Q. Anything else?

A. That is all that occurs to me at the moment. Those are the causes I have in mind.

Q. Now, you had the experience of a long study with [fol. 2424] respect to the Lone Star system, did you not?

A. Yes, sir.

Q. Now, you have known that property for many years, Mr. Biddison, have you not? A. Yes, sir.

[fol. 2426] Q. How long a time did you put in on the study as to the amount of pipe turn-over on that system?

A. I do not know. I have worked on that at various periods for a considerable time and I have had help engaged on it for, I guess, it will amount to probably two years total time of a man but I have not been continuously on it so very much myself.

Q. Well, you have reached conclusions from the research and study that has been made by your staff?

A. Yes, and from studies made by other engineers working on the same problem for Lone Star Gas Company. I have used some of their data and they have used some of mine.

Q. And without asking at the present time as to any result of your work for Lone Star, I do want to ask you to be a bit more specific as to the causes of deterioration now which you found were factors in causing the ultimate retirement of pipe. You certainly have more than two or three?

A. As to well lines and gathering lines, the most important factor has been the life of wells and fields. That

has caused line and pipe removals but I have not embraced those in the figures which I have cited for main lines.

[fol. 2427] (interposing) I might class those under the heading of either obsolescence or changed operating conditions.

Now, the Lone Star has also had some heavy removals of pipe in their main line system due to the factor of changed operating conditions which we might class under the heading of obsolescence.

That is, they became obsolete in the location they were in and on that account, some major removals of lines have been made.

There are also the requirements of public authorities that have caused some removals and abandonments of pipe by the building of new roads, the changing of grade on roads, items of that sort.

Those items have been material in connection with the history of Lone Star removals and abandonments of pipe.

Then, the factor of pipe mortality due to pitting, the result of corrosion.

Q. Now, I understood you to say that your study confirmed the fact that they had about a 4 percent annual turn-over in their pipe due to all of these causes.

A. That is right.

Q. And that about 1.7 percent was due to the factors which caused deterioration in the pipe? A. Yes, sir.

[fol. 2428] Q. What are the factors which would be operating within this 1.7 percent that caused the deterioration of the pipe other than corrosion now which you have mentioned?

A. The main factors in that are corrosion.

Q. Well, is that all?

A. I think that is the only factor in that particular item.

Q. And by the same token, I judge that the one percent that you assert will be suffered by Panhandle Eastern will be due, then, to corrosion?

A. No, I think not. One percent covers all costs.

Q. Covers all costs. That is, you mean those due to inadequacy?

A. Inadequacy, public requirement and changed operating conditions.

[fol. 2430] Q. Well, now, it is a fact that Lone Star had a very small proportion of what we call the larger pipe, has it not?

A. Well, the Lone Star does not have any material amount of pipe as large as that of Panhandle Eastern, but they do have a considerable amount of 20-inch and 18-inch, 16-inch.

[fol. 2432] Q. Now, are there any factors which were present in the Lone Star system that would not be present in the Panhandle Eastern system?

A. Yes.

The factor that the Panhandle Eastern Pipe Line system has better protective coating than on the bulk of the pipe in the Lone Star Gas system, is one.

Another factor of difference is that the Panhandle Eastern Pipe Line Company system draws its gas from two large fields, both of which have already had comparatively long lives and each of which will produce for a great many future years, so that the location of the main pipe line system of Panhandle Eastern is in a relatively fixed position for a considerable period of time to come, as compared [fol. 2433] to the system of Lone Star Gas Company which, beginning with 1909, has had to shift its source of supply in whole or in part several times, requiring considerable rearrangement of its system.

Q. How many fields have they extended their lines to, to obtain gas?

A. I do not know that I could break it down for you into fields. I could name it to you, I think, suitable for your purpose in areas.

Q. All right.

A. They began operations with their supply based upon the Petrolia Texas fields near Wichita Falls and then extended northward from there into Oklahoma into the Chickasha and Duncan area.

The supply was augmented along about 1917 or 1918 by a line from the Fox Loco area of southern Oklahoma, that area being near Ardmore.

Then, about 1920 or 1921, they extended their system out into the Eastland-Breckenridge-Ranger area, that being westward from Fort Worth.

Then, in 1926, they brought in gas from the eastern portion of the Texas Panhandle Field through an 18-inch line running down to Petrolia. Then about 1935, they extended their supply system down into east Texas, Cayuga, Long Lake, and Buffalo fields, generally near Palestine south of Athens.

[fol. 2434]. Those have been the major changes in their supply sources.

Q. They have involved the abandonment of much of the gathering system, have they not, in those various fields?

There have been constant changes?

A. There has been a considerable amount of abandonment and removal of field lines in that connection. Very few of those fields, though, are totally extinct or totally abandoned yet.

Q. You stated that you felt that on the Panhandle [fol. 2435] Eastern system the retirements would be materially less due to mortality than on the Lone Star system.

Now, what factors do you figure will be involved in that and which factors will operate to a lesser extent?

A. The factors which I think will lessen the amount of retirements due to corrosion is the protective coating on the system of Panhandle Eastern Pipe Line Company.

Q. And you did not expect to have any great amount of inadequacy in these lines for some time?

A. I think there will be some inadequacy, but I do not think that will be remedied by retirement and substitution of larger lines.

I think that it will be remedied by property additions.

Q. There has been a constant improvement in the way of the protective covering for pipe line, has there not, in the past ten years?

A. Only in the respect that we do have some mechanical methods of application. So far as the quality of the protection itself is concerned, I do not think there has been any material improvement.

The methods of application have been improved but I do not think that the materials themselves have shown any appreciable improvement. I know of nothing to indicate it.

Q. What are the factors that cause corrosion?

A. The factors that cause corrosion are dissimilarity [fol. 2436] of metals in contact with soluble salts or acids.

Q. And does that occur on the exterior of these mains entirely?

A. No, it does not entirely. When we speak of mains, I am speaking of mains in general now, not of any specific company's mains.

Q. Yes, and corrosion occurs then due to what causes?

A. Interior corrosion on pipe lines is generally caused by the presence of sulphur compounds, free oxygen, and moisture.

Q. Well, is there free oxygen in natural gas?

A. There is occasionally reported a trace of free oxygen in some natural gas analysis. As a general proposition, I think that that is an error in sampling or in analysis.

I do not believe that free oxygen really exists in natural gas, although occasionally an analysis will indicate a trace of it but, in connection with the operation of oil wells, it has been commonly found that air, with its oxygen content, would be mixed with the casing head gas from some



of these oil wells or casing-head gasoline plants and some such gas is used in natural gas pipe lines in some localities.

Q. That would be only where they were buying casing head gas then?

A. That is the only place I know of where you can expect any oxygen in natural gas.

Q. And do they have any nitric acid corrosion?

[fol. 2437] A. I know of one instance where there was a nitric or nitrous acid corrosion on the interior of pipe in connection with the use of gas engine exhaust gases and stack gases off a steam boiler for dilution for control of the heating value.

That is the only instance I know of, of that class of corrosion.

Q. And do you know of substantial amounts of pipe that had been removed on account of that type of corrosion?

A. Yes, I know of several miles of 18-inch, I believe it was, removed on that account.

Q. But that is not a factor you would expect to find in Panhandle? A. No, sir.

Q. Now, I wish you would describe for us the gasoline extraction plant that is in operation on the Panhandle system.

[fol. 2438] A. I can give you the elementary process, at least.

The absorption process is the one that is used at the Liberal plant. In this process, natural gas is brought into the base of a vertical cylinder. As a matter of fact, they have several of these vertical cylinders, called absorbers.

The gas passes upward through these absorbers and in its upward passage, it is brought into intimate contact, through baffles and trays, with a descending stream of absorbent oil which is pumped in at the upper portion of this absorber.

The oil, in contact with the gas, absorbs from the gas some of the liquid fractions which have been carried in solution in the gas.

The natural gas is drawn off from the top portion of the absorber and passed on into the pipe line.

In this particular plant at Liberal, this gas, after having passed through the absorbers and had its gasoline content absorbed, is treated by a somewhat similar process in another apparatus where it is contacted with a liquid which absorbs water from it and the gas is, in that fashion, dehydrated.

From the absorbers, however, of the gasoline plant proper, the enriched oil is drawn off at the bottom continuously and passed to a still, a rectifying outfit.

In its passage to this still, it passes through some heat-exchanging apparatus so that it may pick up and utilize the heat in some of the oil that had already been denuded of its gasoline content in that still.

In the still, this enriched oil comes in contact with free steam. The combined effect of the heat imparted by the steam and the lowering of the vapor-pressure on the gasoline fractions in the oil due to the presence of the water vapors, causes the gasoline vapors to separate out from the oil vapors and they ascend in a dephlegmator column in which some partial condensation takes place and the small amount of the absorber oil that had been carried upward by those vapors are returned to the still and the gasoline fractions go off at the top, where they are carried to condensing apparatus and cooled down.

They may be, in this process, cooled completely in one operation, or cooled in several operations, and the gasoline so produced be produced in two or more fractions of different quality and the gasoline may be subsequently treated, if desired, in other fractioning apparatus so that its vapor tension may be controlled.

That is the general process.

Q. Well, now, what products, or what ones of the heavier hydrocarbons are taken out at this plant?

A. Well, those heavier hydrocarbons which are salable as natural gasoline and the general process in that respect would be to strip out everything heavier than butane; [fol. 2440] probably, and possibly take out some of the butanes and propanes.

Q. Now, what parts of that plant would require replacement to the extent of 5 percent a year, \$35,000 a year?

A. Well, I do not anticipate that any one particular piece of it will take \$35,000 in a year. I anticipate, however, that on the average they will be required to replace that much per year because of the using up of apparatus, cooling tower coils are rather expensive pieces of apparatus and they do not last for ever in spite of the fact they are made out of brass tubes.

The cooling towers themselves require replacements, especially the towers, in spite of the fact that they are largely made out of redwood.

[fol. 2441] Pumps require replacements. Valves and fitting require replacements, instruments and controls require replacements. It is an over-all figure for a property of that class.

Q. You would be able, I take it, to name any parts which would even approximate \$35,000 a year for replacement, would you not, Mr. Biddison?

A. That is correct.

Q. And the plant would be of service until such time as it should be abandoned for some new type of equipment other than very moderate cost for replacements, is that right?

A. I have it in mind that plants of this type will be overhauled and modernized occasionally in order to be kept up to modern standards of efficiency.

Q. And how frequent would you expect that?

A. Well, I think there will be major changes in such a plant every ten, fifteen years. There would be major changes in the layout and design.

[fol. 2442] Q. Now, on the sheet from Mr. Watkins' working papers, there is indicated a retirement from this gasoline extraction plant of \$35,806.35 in 1940.

Do you have any knowledge of what that was?

A. I think that that was in connection with the dehydration equipment. There was some dehydration equipment removed at about that time, either 1940 or 1939, I have forgotten definitely which.

Q. That was designed as an improvement in the art?

A. As an improvement in the art and to provide additional dehydration capacity.

[fol. 2462] Q. Wouldn't it be more accurate for you to say, Mr. Biddison, that the balance in a reserve built up by proper charges through the years does not at any given period represent the depreciation which you claim you cannot observe? Wouldn't that be more accurate for you to say that?

A. No, I think that would be less accurate. My statement is that it would only by a rare coincidence equal depreciation which has occurred in the property.

Q. Do you believe that annual allowances for depreciation should be harmonized with the amount to be deducted for existing depreciation?

A. I do not, I do not think they can be rationally harmonized.

Q. Mr. Biddison, I read you from pages 21 and 22 of the Federal Power Commission's Opinion No. 63 in the Chicago District Electric Generating Corporation proceeding, Docket No. TT-5500:

"The true conception of depreciation leaves no room to doubt that annual depreciation expense and actual existing depreciation must be harmonized. Annual depreciation measures the diminution in service life, capacity or utility in one year—actual existing or accrued depreciation [fol. 2463]. tion is the total diminished service life, capacity or utility to the date of inquiry. To accept the one while denying the others is to be illogical and guilty of employing a dual standard with resulting injustices to the public or to the utility."

Do you subscribe to the principle which I have just read?

A. I certainly do not. I think if they had had as much contact with property as I have had they wouldn't agree to it themselves.

Q. Well, we wanted to make certain that we understood your theory, Mr. Biddison.

When you speak of a replacement, do you mean the replacement by property of like purpose replaced in kind without betterment? A. Yes, sir.

Q. What is the distinction in your theory between addition, addition replacement and betterment?

A. Well, an addition would be the creation of a piece of property where none existed before. A replacement would be to take out one unit of property and put in its place a like unit. A betterment might or might not involve a renewal. It might be to take out one unit of property and replace it with a better or bigger or more efficient unit to serve a similar purpose. On the other hand, it might involve merely the working over of the [fol. 2464] existing unit to make it a betterment, some modernization of it.

Q. Can you predict any major retirements to be replaced in kind with property of like purpose without betterment?

A. Well, I think most any such replacement would result in some betterment, but that is not betterment as I understand the word used in classifications of work.

Q. Mr. Biddison, if an amortization plan is followed whereby each dollar of plant investment is amortized over its remaining life, would there be any need for any replacement allowance in addition thereto?

The Witness: May I have that read back?

(Whereupon, the pending question was read by the reporter.)

The Witness: Well, that would be a replacement allowance.

By Mr. Littman:

Q. As well as an amortization allowance?

A. It would be a replacement allowance on an amortization schedule.



Q. And, of course, no separate allowance for replacements would need to be made?

A. It would be the allowance for replacements.

Trial Examiner: You, nevertheless, propose that the [fol. 2465] annual accruals estimated in your Exhibit 66 for identification and your Exhibit 68 for identification shall run concurrently until the exhaustion of the field, do you not?

The Witness: That is correct.

By Mr. Littman:

Q. Mr. Biddison, I asked you a moment ago whether you predict any major retirements of property to be made in kind of like property without betterment. I believe you responded rather generally. Can you be more specific, can you name any major retirement that you expect will come about which will be replaced in kind with property of like purpose without betterment?

A. Yes. If a stretch of pipe be taken out of service because it is so badly pitted it is no longer suitable for service, it may well be replaced with an equal amount of pipe of the same size and character and with the same kind of protective coating thereon.

Q. With the same life expectancy?

A. With the same life expectancy in the same location.

Q. Can you name something other than the pipe that would come within the category that I described?

A. Yes, you can replace a valve.

Q. I said a major replacement, Mr. Biddison. I don't mean a valve or one piece of pipe, I mean something of major size.

[fol. 2466] A. Well, take a compressor unit. If one of the 1300 horsepower compressor units were required to be replaced at this date, it would be replaced with a unit substantially identical in all respects that would sit right on the same foundation.

. . . . .

Q. Mr. Biddison, is it a fair deduction from your testimony that it is your judgment that this main transmission pipe such as is in place in the Panhandle Eastern system will have an average life of 100 years?



A. No, sir. The only thing that can fairly be deduced from my testimony in that respect is that I don't know what its average life is going to be and I don't think there is any method by which it can be foretold. I can make an estimate of what I think the replacement rate will be on it.

Q. And that rate is 1 percent a year?

A. That is correct.

Q. And does not that imply, then, an estimate of 100 years? A. It does not.

Q. At least 100 years?

[fol. 2467] A. It does not. I have tried to make it plain that I do not think average life can be determined from the replacement rate on steel pipe nor can the replacement rate be determined from average life. It makes no difference in the long run what the average life might be if you do know what the replacement rate is apt to be.

Now we can make some rational determination of what replacement rate is apt to be on steel pipe by a study of what replacement rates have been on other lines. We cannot make any determination of the average life of steel pipe in anybody's transmission system today, because to make a determination of the average life of steel pipe requires that steel pipe in some pipeline go through a life cycle. I do not have and have not heard of and cannot find out about any pipeline on which it can be said there has been a complete life cycle.

Q. And how long have steel pipes been in use?

A. Steel pipe has been in use in pipelines since 1898.

Q. That would be 43 years? A. That is right.

Q. And pipe that was put in at that time is still in use, is it not?

A. Well, I do not know whether pipe that was put in at that time is still in use or not. Steel pipe came into [fol. 2468] use for pipelines at about that time. The first steel pipe that was ever made was made about 1885, but in most all pipelines we find sections in which pipe will have a relatively short life, other sections in which it will have a relatively long life.

Now, if we have a pipeline in which 10 percent of the line is in what we might call hot spots and has to be

replaced at frequent intervals, say, that pipe has to be replaced every ten years, we might have 90 percent or the remainder of the line would be in a location where pipe wouldn't have to be disturbed for, well, say, 35 years.

Now, the average life of pipe under that condition is 32 and a half years. We have a replacement rate on it, however; during the 35-year period we will have replaced 10 per cent of it three and a half times and we will have replaced 90 per cent of it once.

Now, the replacement rate doesn't figure from that average life figure at all and you can take other combinations that will give you the identical average life and have entirely different replacement rates.

Q. Well then, how can you judge a replacement rate for Panhandle Eastern by taking the rates that you have found in other locations?

A. Simply because other locations cover a wide variety of conditions.

[fol. 2469] Q. They would have to be similar conditions, would they not?

A. Well, they would have to have variety enough that you wouldn't be confining yourself to a few of these hot spots.

Q. Well, if you leave the hot spot alone, leave that out of your calculation, how long do you estimate that steel pipe will last?

A. Well, I have no estimate on it. I have nothing on which to base an estimate. If we have no hot spots and no attack, I have no basis on which to estimate life.

Q. Well, isn't your estimate in this case based upon the same theory that is so often given for determining the life of cast iron pipe, a hundred years is long enough to estimate?

A. No, sir, it is not. It is not based upon that at all.

Q. I observe in your Exhibit No. 68 that you carry out the replacement rate on your transmission mains for the full 34 years. You have, however, a retirement of your Texas lines eight years before that period in which you would have pipe for use in replacing anything that went out. Why do you carry this for the full period?

A. Why, I do not carry this Exhibit 68 for any period. I have simply set up here what the present rate of accrual [fol. 2470] should be for the presently existing property. Now, as that property changes, the total amount of the accrual should change. There would be no accruals for the Texas property after it had gone out of service.

Q. Nor would there be any accruals for the balance of the property, because you would have pipe enough to replace anything you needed. I am speaking, of course, of the cost of pipe.

The Witness: I don't understand that.

Q. I was trying to say that there would be no need of an accrual after 1957 for pipe on this transmission system because you would have pipe enough retired from your Texas division and yet you have carried your accrual through for the full period at the full amount.

A. I have carried the accrual only to the extent of showing what the annual rate should be of accrual. I haven't set it up for any period and carried it through to 1965 or to any other period. There would be no accruals whatever, either for the retirement schedule under my Exhibit 68 or for the amortization schedule of my Exhibit [fol. 2471] 66, for the Texas property after it went out of service.

Trial Examiner: As a matter of management then, Mr. Biddison, would it be proper to assume that periodic revisions of this estimation in Exhibit 68 would be made from time to time in the light of experience and the charges to the consumers adjusted accordingly?

The Witness: Certainly, Mr. Examiner. The determination of the rate of accrual for retirements and of the rate of accrual for amortization must be analyzed annually in the light of the changes that have taken place in the property and in the investment in property. No one can determine at this date a fixed figure for either purpose which will properly apply after the property value or the character of the property has changed.

Trial Examiner: And to follow that up somewhat conversely, why is there such a marked uplift in the trans-

mission line charges as compared with the actual experience of the company to date in replacement costs?

The Witness: The company should have been accruing what we might call a contingent fund to meet the impact of heavy retirements with which they will soon be faced. At the time those retirements are to be made there must be enough money accrued in the reserve to meet their cost.

This pipeline system has generally upon it a high-grade [fol. 2472] protective coating which has deferred the attack of the elements on the pipe and has deferred corrosion and pitting. That protective coating will not last forever. None of them do. Cold applications are good in some locations for a few years. The hot applications, such as this system has quite largely, are good for a few years longer. None of them are effective protection for a great many years.

As that protective coating breaks down the rate of corrosion and pitting will increase quite rapidly and they will be faced with a series of pipe replacements far in excess of the annual rates which I have here set up to be made in the course of two or three years to put that pipeline system in condition to continue to operate under the conditions for which it is designed.

After having one cycle of those heavy replacements, according to the experience that has been had by all other operating companies with whose experience I have had contact, they will have a little relief on replacements for a while. The rate of replacements will fall below the average rate only to be followed by another peak, probably of less intensity than the first one, and the replacements will run in cycles in that fashion.

It is for that reason that these amounts should be accrued in a reserve fund. If they were going to be expended at a uniform rate, there would be no use for a reserve fund. There would be no sense in a reserve fund. [fol. 2473] You would simply charge it directly against operations.

[fol. 2481] P. McDONALD-BIDDISON, a witness having been previously duly sworn, resumed the stand, was examined and testified further as follows:

[fol. 2527] Q. Mr. Biddison, will you state in a general way just what items you propose to recover by the accrual under your Exhibit 67?

A. As shown on page 1, the cost less salvage of gas leases and of the wells drilled or to be drilled thereon.

Q. Does that include any provision for abandoned leases?

A. Yes, they are to be recouped through this depletion charge.

Q. Well, does your provision now recoup the company for the matter of the abandoned leases? A. Yes, sir.

Q. And in what way does it do that?

A. By accruing for the total cost of leases.

Q. Well, but you have the cost of present leases, do [fol. 2528] you not? A. Yes, sir.

Q. And have you added in anything for the cost of such future leases as you may have to purchase when an abandonment occurs in the field? A. I have not.

Q. How have you provided for the cost of abandoned leases?

A. Any leases which they now have which are going to be abandoned will be recouped through this charge, because their value is in the lease value which I have used.

Q. That would cover, then, presently existing leases?

A. Yes, sir.

Q. Now, how would you define depletion?

A. You mean as something which happens to the producing property or do you mean as an account on the books?

Q. Well, let's have it both ways, if there is any difference.

A. Well, as applied to the producing property, depletion means the diminution in the quantity of the product with which we are dealing. In the case of gas it means the lessening of the amount of gas possessed by the company.

Q. In other words, gas is a wasting asset?

A. Yes, sir.

Q. And the loss of the store of gas by use is really [fol. 2529] the depletion in that reserve, is it not?

A. Yes, sir.

Q. Now, you are giving evidence, of course, for the determination of rates, are you not?

A. Yes, sir.

Q. And was it your aim to follow the provisions for accounting for depletion that have been laid down by the Federal Power Commission?

A. No, my aim was to provide the requisite amount of money.

Q. Without regard to the accounting that is prescribed? A. Yes, sir.

Q. Let me ask you this, you gave me but the one definition. What is the definition as an accounting matter?

A. Well, a depletion reserve is a reserve account—

Q. (Interposing) Depletion, we were talking about, not the reserve. You mentioned that there was a difference between depletion from an accounting standpoint and from a physical or economical standpoint, I believe.

A. In accounting, as I conceive of depletion, it is an adjective modifying the noun "reserve", and, in that sense, depletion reserve is that reserve account in which may be accrued annual amounts proportionate to the amount by which the property has been depleted sufficiently to accrue the cost of the reserves by the time they are completely depleted.

[fol. 2530] Q. Now, reading from Definition 13 of the System of Accounts promulgated by the Federal Power Commission, effective January 1, 1940, I find that—

"Depletion, as applying to natural gas producing land and land rights, means the loss in service value incurred in connection with the exhaustion of a natural resource in the course of service."

Now, that means the loss in value, does it not, of the investment used in public service, loss in service value?

A. I presume that is what it means.

Q. Now, on the matter of the abandoned leases, it is always an indeterminate amount, is it not, that is, as applied to the future?



A. It may be in some instances and, in other instances, the amount can be fairly closely predicted.

Q. Well, you mean that you can predict the number of leases that will be abandoned in that amount of acreage covering a period of 25 years?

A. No, I do not mean that I can. I simply mean that, in some instances, the prediction of the amount of abandoned leases might be impossible. In other instances, it might be done with a fair degree of accuracy.

[fol. 2531] Q. Well, now, if there is no attempt to determine that or to speculate on it, one can charge them off with absolute accuracy as they occur, can he not?

A. Yes.

Q. So that there is no reason for making an estimate as to the future cost for abandonment of leases?

. . . . .

The Witness: Well, I think some determination of it must be made in matters of this sort, one way or the other. Certainly some provision must be made for it.

Q. Well, assuming it to be a charge against operation, that can be made without any necessity of speculation at the time it occurs, can it not?

A. At the time it occurs, there is no speculation about it in any event.

Q. No, that is factual, isn't it?

A. It is written off in one shape or another after it is known what the amount happens to be. There is no speculation about the amount to write off.

Q. Well, there is no real reason for speculating as to what that will be, is there, Mr. Biddison, in accounting?

A. Not in accounting, no.

. . . . .

[fol. 2534] Q. Now, did you observe Account 503.2, which is the Utility Income Account under the Uniform System of Accounts?

A. Well, I have seen it, but I did not refer to it in this respect at all.

Q. Did you observe this provision?

B. The charges to the account shall be made in such manner as to distribute the cost of producing natural gas.

land and land rights over the period of their benefit to the utility based upon the exhaustion of the natural gas deposits recoverable from such land and land rights."

A. If that is the way it reads, I suppose I have read that, because I have read the classification.

. . . . .

[fol. 2536] Q. Now, your proposed method does not comply with that at all, does it? A. I think it does.

. . . . .

(Interposing) I have based it upon the exhaustion of the natural gas deposits recoverable.

Q. No, you have, for one thing, in there the depreciation upon your well equipment, have you not?

A. It is true that I have included for the recovery of investment in gas wells and for the recovery of investment in nonproducing leases, those items in my depletion account but I am not setting up a set of books. This is not a rule for the accounting department.

I am estimating what it is going to cost for certain purposes and I have done it in accordance with this Section 503.2 on Page 80.

Q. Now, the company has never accounted for depletion or for the depreciation of well equipment in this manner, has it? A. No.

Q. In other words, this would be an innovation?

A. That is not in the manner of any estimate.

Q. This would be an innovation in their accounting?

A. If they were to do it that way, that is correct.

[fol. 2537] Q. You were asked at the close of the session last night and this morning for a comparative statement of the depreciation and depletion which would be accrued, or rather amortization which would be accrued under your system as compared with what the company was doing.

It is correct, is it not, that you have omitted in the depreciation of plant the depreciation upon the well equip-

ment and had put it in what you term your depletion schedule?

A. That is correct.

Q. Now, your system attempts to look into the future and to provide for depletion upon the project for a period of 25 years, does it not? In other words, it is an average, isn't it, for a prospective period of 25 years?

A. No, sir, it is not.

Q. In other words, your depletion is not an average for that contemplated period?

A. No, sir, it is a depletion cost for the properties as they now exist.

Q. Do you mean that the depletion today is that amount?

A. I mean that the unit charge for depletion which I have estimated is that for the properties as they now exist.

Q. Well, then, you are depleting unproductive acreage, are you not?

A. I am accruing in a depletion reserve for the retirement of properties not now producing but estimated to have reserves.

[fol. 2538] Q. And you wish to charge off, then, as a present operating expense a reserve which will cover future operations which are, to a very considerable extent, speculative, is that right?

A. No, sir, I do not. I have set up a charge against present operations equal to the cost over the recovery of the reserves of land and leases and wells required to affect the recovery and set up that charge annually based upon the recovery during that year.

Q. But, in doing that, you necessarily enter into the realm of speculation as to how many wells must be drilled in the future and you apply a depletion to the cost of that operation which may or may not be necessary, do you not?

A. No, sir, I do not.

Q. In other words, you know today exactly how many wells must be drilled?

A. I do not, but I can make a rational estimate of the number of wells which will be required to be drilled.

Q. Do you know today how many wells are drilled?

A. Yes, sir.

Q. And you know how many acres those wells are draining, do you not?

A. No, sir, and neither does any other human being.

Q. All right, then you do not know how many wells you are going to drill, do you?

[fol. 2539] A. I can make a good estimate of how many wells will have to be drilled.

Q. You are starting out by determining depletion by injecting speculation. You must admit that.

A. I do not call it speculation. You can use any name you choose on it, but I make an estimate based upon information and knowledge.

Q. Well now, if that is true, then you have some knowledge as to the amount of drainage in the Hugoton Field in and about the present wells?

The Witness: Well, I have a limited knowledge about drainage, yes, in the area.

[fol. 2542] Q. You were speaking about the matter of your estimate as to the number of wells that would be necessary for the future recovery of this gas reserve, and you stated that you had some knowledge as to the matter of drainage in that field.

I observe on Page 4 of your Exhibit No. 67, that you have taken out of the Panhandle Field some 23,396 acres, they were in Sherman and Hansford counties, Texas, and placed them in the Hugoton Field: What was the reason for that?

A. Because, with the field outlined, as generally interpreted today, that acreage is part of the Hugoton pool rather than the Panhandle pool.

[fol. 2543] Q. In other words, the present concept is that the Hugoton Field extends through the Panhandle claim and into Sherman and Hansford counties, Texas, is it not? A. That is right.

Q. Now, theoretically, a few openings in one field would entirely exhaust the entire field, would it not?

A. Yes; in time.

Q. Now, then, the question of the amount of gas that could be produced from any one well would depend very much on the number of wells that were drilled in future in the areas surrounding it, would it not?

A. Yes, that would be one factor for that determination.

Q. You would have to, in some way, judge as to the amount of withdrawal from that field and the location in which those wells would be placed, would you not?

A. Yes, for the determination of the output of a particular well you would need to give that consideration.

Q. How many acres would one well drain in such a situation as you have in the field at the present time?

Mr. Culton: Which field?

Mr. Chamberlain: Hugoton.

The Witness: I don't know.

By Mr. Chamberlain:

Q. And do you have any way of computing how long it would take for a well to get to a point where it would not [fol. 2544] economically produce?

A. Yes, there are methods of doing that.

Q. How would you arrive at that?

A. I would compare the rate of changes in productive capacity with the cumulative withdrawals of as much of the well's history as was available. If there were no well history available, that matter could not be determined in such fashion; if the well history was too short, it might be misleading.

Q. Well, if a well had its pressure very much reduced by withdrawals, the reserve area, or whatever you call it, would again flow in, would it not? A. To some extent.

Q. It wouldn't do that except as there were wells outside beyond it which would exhaust the gas supply, would it? A. That is correct.

Q. Now, in estimating 25 years in the future, you must necessarily estimate as to how many wells may be placed in close proximity to the Panhandle wells, would you not?

A. No, not necessarily.

Q. You are able, then, Mr. Biddison, to sit here and tell us how many wells it is going to be necessary to drill within the next 25 years to obtain the reserve that is under this land?

A. I was able to [estimate] that on the basis of the regular procedure of development adopted by the Panhandle Eastern Pipe Line Company and that in general

[fol. 2545] use in the Hugoton area, that the well spacing would be one well per 640 acres; that there would be deviations from that because there are leases owned by Panhandle Eastern which are smaller than that, some of which will need to be drilled or surrendered.

[fol. 2549] Cross-Examination (Resumed)

By Mr. Littman.

[fol. 2550] Mr. Biddison, we will now discuss your amount to be deducted for depreciation on book cost of property as set forth in your Exhibit 69: Do you have that exhibit before you? A. Yes.

Q. Am I correct in stating that the conclusion that you reached from this exhibit is that the amount of \$3,903,142.46, shown at the bottom of Page 2, Column D, headed, "Deduction for Depreciation," represents the amount which, in your opinion, should be deducted for depreciation from book costs of Panhandle Eastern Pipe Line Company and subsidiary company property as of June 30, 1941?

[fol. 2551] A. Before answering the question I want to call attention to the fact that you didn't quite correctly read the figure; the figure is \$3,903,102.46.

Q. I thought that was the figure I had read.

A. That is my estimate of the amount of the cost of that property which has been lost through depreciation as of June 30, 1941.

Q. That is to say, if the book cost shown in column C in the total were to be used as the rate base in this proceeding, do I correctly understand that the amount of \$3,903,102.46 should be deducted for depreciation, according to your testimony; is that correct?

A. That is not correct. If the amount, as per books, in column C, constitutes value, then there should be no deduction for any purpose that I know of.

Q. What is the purpose of setting forth the figures in column D, if your statement is correct?

A. The purpose is to show that if column C represents value originally, that \$3,903,102.46, that value has been lost through depreciation.



Q. And should be deducted from the amount shown in column C to secure the value new, less depreciation?

A. No, sir, it doesn't represent value new less depreciation at this date. If column C be considered to represent values when the various items were constructed, then the [fol. 2552] amounts in column D represent the amounts of those values that have been lost. If column C represents value today, then column C, less column D, represents something less than value today.

Q. Well, if you want to secure the book cost less depreciation for purposes of this proceeding, what would you do?

A. If you wanted to obtain book cost less depreciation for that purpose, use column E, which is book cost less depreciation.

[fol. 2554] Q. You are not agreeing that book cost be used as a rate base?

A. No, sir, I am not.

Q. I think you make yourself rather clear in that regard. Now, what is the purpose of this Exhibit 69?

[fol. 2555] A. To show the amount of the cost of this property which has been lost through depreciation.

Q. Expressed in terms of book cost?

A. Yes.

Q. Well, what is your purpose in submitting this exhibit if, as you say, it has no connection with a rate base, or determination of a rate base?

Mr. Culton: There is a further objection to that. The attorneys in this case accept the responsibility for causing exhibits on different subject-matters to be submitted for the purpose of providing information. We have attempted to expedite this matter by furnishing the types of information that have been considered in various types of rate cases. This information was requested by counsel of this witness, so these tabulations were prepared and questions asked about them, and by the other counsel also.

Trial Examiner: Read the question.

(The pending question, as above recorded, was read by the reporter.)

Mr. Wheat: Before the witness answers, let it be understood that counsel takes the responsibility for having this exhibit prepared. The exhibit, as everyone knows, shows depreciation. Counsel for the Commission asked the specific question, "What is the depreciation existing in the [fol. 2556] property in relation to its book cost?" In response to that request, we, counsel for the Panhandle Eastern, Respondents here, asked the witness to prepare this exhibit. If there is any further statement of the purpose required, we will be glad to answer it.

Mr. Littman: We have had a pretty good opportunity to get acquainted with Mr. Biddison for the past 3½ days. I think we will all be inclined to agree he wouldn't do something just because somebody else asked him to; he had some purpose in doing it, we may presume, and it is for him to say whether he did or did not have something to do with the origin of this idea of putting this exhibit in evidence. If it is of no significance, I would like to know that; if it is, I would likewise like to know what is claimed by this exhibit; I would like to know the facts.

Mr. Wheat: It is purely a question of law.

Trial Examiner: The purpose of the exhibit is perfectly clear and the witness is, of course, not responsible for any legal theories, or what not; let's get right down to the merits.

The Witness: If I may, I want to correct a misapprehension that might be gained by the last question put to me by Mr. Littman: I haven't said this has no relation to the matter of the rate case.

[fol. 2557] Q. Will you define the term "depreciation" as it is used in this exhibit?

A. It is the loss in value on property occasioned by wear and tear, the action of the elements and obsolescence, which may be definitely determined.

Q. Would you say that your estimate of depreciation to be deducted from book cost represents the loss in service value, not restored by current maintenance, incurred in connection with the consumption or prospective retirement in gas plant in course of service from causes which are known to be in current operation and against which the company is not protected by insurance?

A. Yes, it will conform with that definition.

Q. I believe you stated that, in your estimate for depreciation to be deducted, there is reflected wear and tear and the action of the elements and obsolescence?

A. Yes.

Q. Does it reflect decay?

A. Yes.

Q. Inadequacy?

A. Insofar as any could be determined, yes.

[fol. 2558] Q. Did you deduct anything for inadequacy at any place?

A. I think not.

Q. Does it reflect changes in the art?

A. It is designed to do so if there were any discernible which produced a lessening in value.

Q. Did you discern any?

A. I don't recall any.

Q. And that means, of course, you didn't deduct any for that reason?

Q. Does your depreciation deduction include or reflect changes in demand and changes occasioned by action of the public authorities, and, if so, did you deduct anything for it?

A. It doesn't reflect that and I have no deduction.

Q. Does it reflect anything for the assumed exhaustion of the natural gas supply?

A. It does not.

Q. I believe you mentioned that it did reflect obsolescence. Did you make any deduction for any obsolescence?

A. I did not.

Q. Does your estimated deduction for depreciation reflect any depreciation other than that which be observed by the eye?

[fol. 2559] A. Yes. I wish to correct the previous answer that I did allow for obsolescence in equipment in the local

area around Kansas City; that is a small portion of the total property.

Q. Is that the only instance in which you made any deduction for depreciation which cannot be observed by the eye, namely, the one exception of the local area?

Mr. Littman: I think he made answer to that question and also referred back to the previous question, but I think the witness can straighten the matter out.

Mr. Gorman: Your answer to that question is properly interpreted as being "Yes," is it not?

The Witness: I don't think it should be any other way.

By Mr. Littman:

Q. I think I know what Mr. Biddison has in mind. Mr. Biddison, leaving out of consideration for the moment the local area, does your estimated deduction for depreciation [fol. 2560] reflect any depreciation other than that which can be observed by the eye?

A. Yes.

Q. Will you give us some examples of instances where-in you have made a deduction for depreciation that is not observable by the eye?

A. Well, I have made a deduction on gas wells in both the Texas Panhandle field and the Hugoton field; that is not observable by the eye. I have made a deduction on the main gas compressor units, each of the main line compressor stations; that is not discernible by the eye. Also on the auxiliary electrical unit in each of the compressor stations.

Q. Automobiles and trucks?

A. Yes, and on automobiles and trucks, and on the main transmission line. The depreciation which I have allowed is not that which would be determined simply by the observations on test holes which were dug, but as a result of the application of those observations, together with the data made available in regular reports of inspection of pipe by the Panhandle Eastern Pipe Line Company, weighed out as to the length to which the data should properly apply.

Q. Mr. Biddison, perhaps you misunderstood my question. My question was, Does your estimated deduction for

depreciation reflect any depreciation other than that which can be observed by the eye? Now, with respect to the main transmission line that you mentioned, do I correctly understand you to mean that you used the observations and data of others as well as your own observation?

A. That is correct.

Q. But that was primarily for the purpose of ascertaining what the observation would have been if you had had a chance to see all of these particular test holes?

A. That is correct.

Q. Well, then, if we understand each other, and I think we do, with the exception of the items that you have named, other than transmission mains, you used the pure observation method and reflected in your estimated deduction for depreciation that depreciation only which could be observed by the eye? Now, am I correct in my statement? If you want to state it in your own language, it is perfectly all right for you to do it that way. I just want to know how much of your estimate represents the pure observation method, and what part of it does not.

I think that is substantially correct, yes. There might be some minor variations from that, but I don't recall right now. The particular ones would be in the local area of wells and pipe lines which are a small fraction of the total.

Q. Yes, and Mr. Gorman calls my attention now to the [fol. 2562] matter of wells. You used the observation method on wells, or did you not?

A. I did not.

Q. Well, we will come to them, that specific item, later on, anyway, where we can discuss it more fully. I wanted at this point to get a general statement of your method. We agree that principally it was the observation method?

A. Principally so, yes.

Q. Now, you have from time to time in your direct examination referred to percentages in expressing your estimated deductions for depreciation. What does the term "100 percent condition" mean as you have used it?

A. It means as good as new; it has lost none of its original value; that it hasn't been damaged.

Q. The day a piece of equipment is first installed brand new it is in 100 percent condition, is it not?

A. Not always, but that is generally true; they may damage it in installing it.

Q. But excluding such damage you would agree it would be in 100 percent condition on the day it is first installed?

A. Yes.

Q. After it is used three years would it still be in 100 percent condition?

A. It depends on whether it had deteriorated or been damaged.

[fol. 2563] Q. You, then, can readily conceive of cases where property that is three years old would still be in 100 percent condition?

A. Certainly.

Q. Even though it is three years closer to the day when it would be retired?

A. Yes.

Q. Well, what does "zero percent condition" mean?

A. It means that all value has been lost.

Q. It does not represent the status at which the property is to be retired?

A. Not necessarily; quite often property is retired before it becomes zero percent condition.

Q. You say quite often; will you elaborate a little on that and give us some examples of that situation?

A. It is quite common in the operation of gas pipe lines that because some pipe needs to be removed that more pipe is removed at that time than that particular length which compelled removal. It may be economical, while the ditch is open and while the crew is there, to remove a considerable amount of additional line, not because it is necessary at that time to remove it, but because it is economical to do so. Some of this additional pipe may be a long ways from zero condition; it may have considerable value and considerable service life left. Furthermore, [fol. 2564] during changes in pipe line location or grade, it quite frequently happens that pipe is removed and abandoned without any reference to its physical condition. It is also true that there is a considerable amount of equipment subject to very little wear, subject to the action of the elements, which loses very little value up until the time some accident may damage or ruin it. It is also true of other equipment that it may remain in excellent shape



with very little loss in value up until the time somebody devises a better and more efficient piece of property to do the same work, at which time this equipment may suddenly lose value.

Q. You haven't deducted anything for the causes of retirement which you have just described, have you?

A. I have not deducted anything for causes which may in the future cause loss in value; I have attempted only to make deductions for those things which have caused loss in value.

Q. You made an allowance on the annual side, however, for those causes which you just described, have you not?

A. I have made an allowance for an accrual for those things which will happen in the future. The accrual is to take care of the present and future. I have made no allowance in the present condition of this plant for an amount to be deducted for depreciation which has occurred for items which have not occurred.

[fol. 2565] Q. And you have made such an annual allowance because, as you have heretofore testified, you know that they are going to happen?

A. That is correct, but they don't cause loss in value until they happen.

Q. Well, let's take the first example that you named: I believe you said that oftentimes pipe is taken up before it reaches zero percentage condition, and you gave an example of where there was a stretch of pipe that has to be retired by reason of deterioration and it was found economical to remove the pipe alongside of the deteriorated pipe as an economy. Have I correctly portrayed your thought in that connection?

A. Yes.

Q. Let's take that example: If at one of your inspection points you observed such a piece of pipe which had not yet reached such zero percentage condition, as you have described it, you would be very likely to record a percent condition of something as high as, say, 60 or 70 percent, might you not?

A. That is possible.

Q. In fact, it has happened in your long experience, has it not?

A. I expect so.

[fol. 2566] Q. What does 98 percent condition mean?

A. To me it means that 2 percent of the value has been lost.

Q. Does it mean that 2 percent of the service value has been lost?

A. Two percent of its value for any purpose has been lost; it doesn't mean that 2 percent of its life has expired; it means that 2 percent of its value has expired.

Q. Don't anticipate me too much, Mr. Biddison. Could you answer the direct question as to whether 98 percent condition means that 2 percent of its service value has been lost?

A. Yes.

Q. I believe that was the term that was used in the definition I read to you. But you don't consider, as you just stated, service value to relate to service life?

A. Yes; it is related.

Q. Well, you say it has a relationship; how much of a relationship do your percents have to life, service life?

A. I can tie them up to service life in some cases; in some cases I cannot. In the case of these main compressor units I have assigned service lives not in terms of years, during which they might be kept in position, but in terms of operating hours that they might be operated.

Q. Well, that was one of the exceptional cases, was it not, Mr. Biddison?

[fol. 2567] A. That is right.

Q. There you did relate your percent condition directly to service life in terms of hours?

A. That is right.

Q. But that, as we agree, was an exception rather than the rule?

A. No.

Q. You didn't do it that way for the pipe?

A. No.

Q. That is, you didn't determine the life of the pipe and try to relate your percent to that?

A. That is right because I don't think the pipe is consumed in service in any such fashion; I think that gas compressors are.

Mr. Goodman: Could I inject at this point just to ask one question?

Mr. Littman: Yes, certainly.

By Mr. Goodman:

Q. Could you tell me what a piece of pipe in the main transmission system which is marked or graded or valued by you at 98 percent condition, will fail to do in comparison with a pipe in 100 percent condition?

A. Yes, I can tell you.

Q. Well, what do you say?

A. It won't fail to do anything that the pipe in 100 [fol. 2568] percent condition will do.

Q. Now, if you will turn to Exhibit 69, Mr. Biddison, I call your attention to line 8, on page 1, entitled "Leaseholds," which have a book cost, as shown in column C, of \$1,745,207.39, and which, as shown in column E, have a book cost, less depreciation, of exactly the same amount. Obviously, you made no deduction for depreciation on account of leaseholds; did you?

A. That is right.

Q. Is it your testimony that there has been no depreciation on these leaseholds since they were acquired by the company at the book cost shown in column C?

A. Yes, and on the other hand I think there has been a very great appreciation in these leaseholds since their acquisition.

Q. Mr. Biddison, I am now talking about physical depreciation from book cost. Now, what would be your answer?

A. There has been no physical depreciation in leaseholds.

Q. Did the leases cost the company any more than \$1,745,207.39?

A. All I can tell you about that is that that is the cost as furnished to me, as given from the books.

Q. Do you know how much gas has been withdrawn from those leaseholds since they were first acquired by the [fol. 2569] company at the cost shown in column C?

A. I think I can determine that figure.

Q. I think your Exhibit 67, page 5, might show that. Have you found the figures?

A. I think so; as I add it up it is 159,873,106 m. c. f.

Q. That is the amount of gas that has been withdrawn from those leases since they were acquired by the company at the cost shown by the figures in column C?

A. That is right.

Q. Doesn't Exhibit 67, page 5, show that the gas reserves of the company in the field are approximately 20 percent depleted?

A. It shows that a little less than 20 percent of that which is ultimately expected to be produced has been produced.

Q. And that is what is commonly called depletion, is it not?

A. No, that is past production.

Q. What do you call your allowance, your unit allowance, for that past production? I think it is in a heading of this Exhibit 69, is it not, "Unit Charge for Depletion"?

A. I have a depletion unit charge set up on page 2 of Exhibit 67.

Q. Now, these leases have suffered depletion, then, since they were acquired by the Panhandle Eastern Pipe Line Company at the cost, per book, shown in column C, [fol. 2570] have they not?

A. Yes.

Q. And you made no deduction whatever for depletion?

A. That is correct.

Q. Why?

A. Because in Exhibit 69 I was showing the amount by which the property had suffered depreciation.

Q. Mr. Biddison, can't you get away from reproduction cost for a moment and talk about book cost? Should there be a deduction made for the depletion which you yourself have admitted has come about from that book cost?

A. Not for any purpose that I know of.

Q. Well, of course, you don't propose that this exhibit be used for any purpose?

A. It is not my function to determine what they will be used for.

[fol. 2574] By Mr. Littman:

[fol. 2575] Q. Is the figure shown in Column C entitled "As Per Books" in the sum of \$1,745,000 useful for any purpose in this proceeding?

A. I think it may well be. It is my understanding that the matters of cost and value are matters to be considered in a proceeding of this sort.

Q. Now, Mr. Biddison, you have used that figure, as a matter of fact, haven't you?

A. Yes.

Q. For what purpose?

A. To show the cost of those leases.

Q. For what other purpose or have you forgotten?

A. I used it in Exhibit No. 67.

Q. You surely did. For what purpose?

A. To determine the unit charge for depletion.

Q. Of leaseholds?

A. Of leaseholds, for leaseholds and wells.

Q. And so your annual allowances for depletion of leaseholds uses, as a base for that depletion, the book cost which you show in Column C, in the amount of \$1,745,000, is that not correct?

[fol. 2577] Q. Now, what is the purpose of a unit depletion allowance based on book cost of leaseholds, Mr. Biddison?

A. To recover, by proportional charges applied to the production, the amount of the cost by the time the production is completed.

Q. That is, to return the investment in leaseholds to the company as they are depleted?

A. That is correct.

[fol. 2578] Q. Now, you would not want to suggest, would you, Mr. Biddison, that the company receive or recoup its investment in these leases and, at the same time, earn a return upon the undepreciated, undepleted original investment in those leases?

A. I would certainly suggest that that would be the minimum to which this company should be subjected.

[fol. 2580] By Mr. Littman:

Q. Now, assuming, Mr. Biddison, that we are down in 1964 with only one more year to go according to your estimate of the end of the life of this property and assuming that you had been collecting, as you suggest, I mean the

company had been collecting, as you suggest, \$136,614 a year on the average for depletion which, of course, includes depletion on leases.

Let us assume at that time the book cost of the leaseholds still stands on the books at \$1,745,000. Would you still suggest that there be no deduction from the book cost figure for depletion?

A. You mean, there would be no deduction for depletion from the book cost of leases, is that the proper [fol. 2581] interpretation of your question?

Q. Depletion or depreciation, there would be nothing in this Column D?

A. Yes, sir.

Q. Yes, there should be a deduction then?

A. No.

Q. Or yes, there should not be a deduction?

A. There should be no deduction.

Q. Notwithstanding the fact that the company will have been recovering and recouping its investment in these leases through all those years at the rate of \$136,000 a year down to 1964?

A. Yes, sir, by virtue of the fact that they are in there at their cost and not in there at their value.

Q. They should earn a return on the original book cost or something higher, notwithstanding the facts that I have assumed?

A. Yes, sir.

Q. Now, let us look at the item of rights-of-way for transmission system properties in Exhibit 69, Page 1, Line 27.

I note that the cost per books for that item is \$1,181.039.97 and you have deducted nothing for depreciation. Is that correct?

A. That is correct.

Q. Why?

[fol. 2582] A. Because I do not think they have depreciated. I do not think they have lost value.

Q. Don't rights-of-way lose value?



A. They lose value suddenly when they are abandoned. Up until that time, if you are justified in operating the property thereon, they have not lost value.

Q. Something like the "One Hoss Shay," it collapses on the last day of its life, is that right?

A. It might be more like a house which burns down and loses value suddenly. As long as that burning down has not happened, the loss has not occurred.

Q. Well, how about the pipe that runs over those rights-of-way? Does that all accumulate depreciation like a house that burns?

A. No, sir, it does not.

Q. On the last day?

A. It does not.

Q. But the rights-of-way do?

A. Substantially so, yes.

Q. I am sorry, I do not get the distinction. Would you mind telling me why the one does and the other does not?

A. Well, we will take this example:

If I laid a pipe line ten years ago that was going to run for 30 years, it would still have 20 years of life today. The right-of-way for that line might have cost me \$1,000,000. I [fol. 2583] would have 30 years over which to amortize it. I think today that right-of-way is worth \$1,000,000.

That is, it has not lost its value because, if I had not built that pipe line ten years ago, I would put it in today even though I only had 20 years future life for it and I think the value of the one right-of-way today would be precisely that of the other one, that there would have been no loss in value of the first piece of right-of-way.

Mr. Lee: May I ask a question?

Then it is your idea that the duration of the term for the use of the right-of-way does not affect its value?

The Witness: That is right. It does affect the rate at which you must accrue funds by which to effect the retirement.

Mr. Lee: You would say that an easement for this purpose that has 20 years to go is just as valuable as the easement that has 30 years to go?

The Witness: Yes.

By Mr. Littman:

Q. If you had two rights-of-way, Mr. Biddison, one that had 20 years to run and one that had only one year to run, assuming all other things to be equal, which one would be worth the more?

A. The longer-termed one would be the more valuable if you had a requirement for the longer term.

Q. I said all things being equal. The longer one would [fol. 2584] be worth more than the shorter one?

A. If you had a requirement for the longer term, but if you hadn't, one would not be more valuable than the other.

Q. Yes. Looking at the annual allowance side, you have made an annual allowance for the replacements of these rights-of-way, have you not, in your Exhibit 68?

A. Yes.

Q. In the amount, I believe, as shown in Line 15 of that exhibit, of \$1,181.04 per year?

A. That is right.

Q. And you have proposed that substantially that amount would represent the proper amount from the beginning down to June 30, 1941?

A. No.

Q. You would have to calculate to tell exactly what it would be, but you would at least apply the rate of .1 percent to compute on the right-of-way for an annual allowance for replacements?

A. That is correct.

Q. That would amount to a sizeable sum of money, would it not?

A. Yes, it would.

Q. But you will have collected that, that is, the company will have collected that under your theory for ten years and yet you make no adjustment for depreciation? [fol. 2585] A. That is right.

Q. Will you please turn now to the item of gas wells shown in Line 9, in the book amount of \$2,620,290.94 for which you make a deduction for depreciation of \$216,232.61, leaving a "book cost less depreciation" shown in Column E of \$2,404,058.33?

What method was used to arrive at the deduction for depreciation for that account?

A. In most cases, I have deducted one percent per year of age but, in those cases where specific deterioration was determinable by examination of records, I have made additional allowances beyond the allowance of one percent per year of age.

Q. How many wells were depreciated by you on the so-called life method of one percent per year that you just described?

May I ask, were those wells in the Local Area?

A. Exclusive of Local Area wells, I have depreciated 114 wells on the basis of age and I have depreciated 23 wells on the basis of factors other than age factors [producing] a lower condition than the age figure would produce.

Q. Now, the age method that you described was to take a straight flat one percent per year, is that right?

A. That is right.

Q. That would indicate a life, on the average, of 100 [fol. 2586] years for each well, would it not?

A. No, sir, it would not.

Q. Would it indicate a physical life of 100 years?

A. No, sir, it would not.

Q. The 23 wells that you based on factors other than age were depreciated how? Describe your method, generally.

A. In the Hugoton Field, the Gregory No. 1-19 needs the setting of an additional string of casing. The original producing string appears to have been perforated by corrosion. I have, therefore, deducted 25 percent of the cost of this well.

Q. How did you arrive at 25 percent?

A. That is a judgment figure as to the amount of value that has been lost by virtue of the fact that there is some leakage in the casing.

Q. Did you observe that well?

A. No, I got this information from data on file in the Production Department of Panhandle Eastern Pipe Line Company.

Q. In other words, the casing represents approximately 25 percent of the entire cost of the well and you, therefore, deducted 25 percent from new to get your percent condition?

A. No, I estimate that by virtue of the fact that the casing has been perforated at some point, that the well has lost 25 percent of its value.

Q. I see. Will you proceed to explain your method [fol. 2587] please?

A. The Youngren No. 1-24 in the same field shows indications of caving conditions and it is estimated that it will probably have to be reworked.

It is also stated there is probably some material in this hole, some junk material left there at the time of drilling or at the time of cleaning out.

Q. What percent condition did you place on that well?

A. I deducted 25 percent on that well for that condition.

Q. Did you see that well? A. Yes, sir.

Q. How much of the well did you see?

A. I saw that portion of it which is above ground.

Q. And that portion of it which is above ground represents what portion of the total cost of the well, approximately, in percentage?

Something like five percent, would you say?

A. Close to that.

Q. How long did you spend at that well?

A. Three or four minutes.

Q. And what did you do during that three or four minutes, Mr. Biddison?

A. Just looked at the well.

Q. Did you take a picture of it?

A. I believe I did.

[fol. 2588] Q. How much of the three or four minutes was spent in taking the picture?

A. Probably thirty seconds.

Q. All right. Will you proceed with the next one?

A. Crawford No. 1-31, on this well which is proposed to be acidized, it appears that the cementing of the casing was not as good a job as is required preliminary to acidization and it is proposed to re-cement this casing before acidization and for that well I deducted 15 percent.

Q. How did you arrive at the 15 percent, Mr. Biddison?

A. That is my estimate of the value lost by that well by the failure of the cement job to last.

In this same field, the Gaskell No. 1-100 is in the same condition as for the Crawford well just referred to, and for it I have also deducted 15 percent.

Q. A judgment estimate? A. Yes, sir.

Q. Did you see that well?

A. I do not recall. I would have to run through my field notes to determine that.

Q. Now, you have cited several examples. Is that representative of the method and manner in which you determined the percent conditions on the 23 wells that were based upon a determination other than the basis of age?

A. That is correct. I endeavored to give effect to the [fol. 2589] information that was available as to conditions of these wells which detracted from their value even though you could not see it by observation.

Q. Now, that is a total of 137 wells that you determined a percent condition for.

How many of those wells did you observe?

A. I will have to make a count on that before I could tell you. I have to count from my field notes.

Q. Can you give us a general idea, Mr. Biddison? We would not hold you to an exact figure.

A. Well, in the Panhandle Field, I judge I saw 15 or 20 wells.

In the Hugoton Field, about half-a-dozen. That is as near as I can make a guess at it right now.

Q. Yes. When I used the term "saw", I do not mean driving by in a car, you understand. I mean, a detailed observation, what you would call an inspection.

A. Yes.

Q. How many did you actually inspect?

A. Well, I think probably in the Panhandle Field 15 or 20 and maybe something like a half-a-dozen in the Hugoton Field. That is as near as I can give it to you from memory.

Q. That is around 30 out of the 137, roughly?

A. Say around 25, roughly.

Q. And you spent three or four minutes at each?

[fol. 2590] A. Yes.

Q. And you took a picture of each one, did you not?

A. No, I did not take a picture of each one.

Q. About how many of those that you observed did you take a picture of?

A. I probably took pictures of half of what I looked at.

Q. What is the basis of your one percent deduction per year for depreciation on the 114 wells?

A. It is an allowance to take care of the known fact that these wells would depreciate. That depreciation accelerates with age and, in comparatively young wells, the amount of depreciation is hardly detectable and cannot be determined in any event, by purely surface inspection.

Q. Now, will you name the factors or causes that bring about the retirement of a well? First, name the most important one.

A. Depletion, depletion of reserves.

Q. That is correct, the exhaustion of the gas. Why didn't you use that as the basis of determining the depreciation on the wells, bearing in mind, Mr. Biddison, that you used that basis for the determination of your annual allowance for depletion?

A. Because that does not fix the amount by which a well has depreciated. If you were justified in drilling a [fol. 2594] well upon a tract of land, the value of that well is not reduced just the minute you drill it in by virtue of the fact that 25 percent of the total reserve of that tract had been withdrawn before you drilled the well.

Q. Now, are you talking about the well without gas in it or are you talking about the well and the gas together.

A. I am talking about the well and the effect of previous withdrawals upon that well.

Q. Who is going to buy a well without any gas in it, Mr. Biddison?

A. I have not suggested that anybody would.

Q. Well, in the hypothetical case that you are giving us, I understood you to say it was a well without gas.

A. No, sir, I did not say any such thing as that.

Q. Your valuation, the valuation you are speaking of is the value of the well without the gas, isn't it?

A. It is the value of the well.

Q. Without the gas?

A. I am not including the value of the gas in the value of the well. I am speaking of the value of the well.

Q. Without the gas?

A. The gas is not part of the well.



Q. Can't you answer me yes or no?

A. I will answer any questions susceptible of being answered that way.

[fol. 2592] Q. Are you talking about the value of the well without the gas in it now, separate and apart from the gas?

A. I am talking about the value of the well separate and apart from the value of the gas, but I am not talking about a well that would not produce gas and that does not have gas at its location.

[fol. 2597] P. McDONALD BIDDISON having been previously sworn, resumed the stand and testified further as follows:

### Cross-Examination (Continued)

By Mr. Littman:

[fol. 2598] Q. Mr. Biddison, at the close of yesterday's session, we were discussing Exhibit 69, which shows the amount deducted by you from book cost for depreciation to determine the amounts which are shown in Column E to be the "book cost less depreciation," and we were discussing particularly the well account shown in Line 9 of that exhibit.

I believe you testified near the close of yesterday's session that the major cause for the retirement of gas wells is exhaustion of the gas supply.

Is that correct?

A. Yes, sir.

Q. And I believe you were going to enumerate other causes that brought about the retirement of gas wells and we had not completed that line of inquiry.

Did you want to state what other causes there are, if any?

A. Wells may sometimes be retired because of peculiar conditions arising in the producing sand, such as caving of the hole, water intrusion, salting up of the producing sands and wells may also be abandoned because of failure of casing.

There are rare instances when a well may need to be abandoned because of blow-outs around the casing.

Q. Those items which you have just named, of course, effect, do they not, the ability of the well to produce gas?

A. Yes.

. . . . .

[fol. 2601] Q. Mr. Biddison, do you know of any instance in which any of Panhandle Eastern's wells have been retired by reason of cave-in, watering up, salting or failure of casing, which, I believe, summarizes the reasons you just made?

A. No, I do not.

Q. In some of those instances, at least, cannot the well be repaired for future use after a cave-in or a failure of casing or after some of the other things occur which you named?

[fol. 2602] A. Yes, quite often, and I have called attention to some instances where rehabilitation was in immediate contemplation with respect to some of those wells but, on the other hand, they are matters that do cause the abandonment of gas wells.

Whether the wells can be reworked and put in good condition depends upon the extent and locality of the damage that is done.

Q. You mean, sometimes they can be rehabilitated after these events occur and sometimes they cannot?

A. That is right.

Q. Generally, may we not agree that the predominant cause of retirement of wells is the exhaustion of the gas supply?

A. That is right.

Q. And you did not use the depletion of the gas supply as a basis of measuring the depreciation of the wells, did you?

A. No, sir, I did not. I used the depletion method to set up the accruals for ultimate retirement.

Q. That is, the annual allowances for accruals?

A. Yes, sir, but I did not use depletion in order to determine the amount of value which the wells had lost at this

time because the value which they have lost at this time is not a function of depletion.

Q. In your opinion, of course?

[fol. 2603] A. Yes, sir, in my opinion and in the opinion of a great many others.

\* \* \* \* \*

[fol. 2608] By Mr. Littman: And did you make a determination of the amount to be deducted for depreciation for 80 wells in the Hugoton Field?

A. Yes.

Q. Very well.

A. I think I should explain that a little bit.

Q. Proceed.

A. I made a calculation of the amount to be deducted for depreciation on each well based upon its reproduction cost and thereby determined a figure to be deducted for depreciation for the wells in the Panhandle Field and a separate figure for the wells in the Hugoton Field.

Q. And you used the same percentage for deduction of depreciation for purposes of Exhibit No. 69 applied to book cost, did you not?

A. That is true, but I do not believe I separated that by fields in making that application to the book cost figures.

Q. I see. Well, let's talk now about the 80 wells in the Hugoton Field, Mr. Biddison.

Now, with the exception of four wells which I believe [fol. 2609] you described yesterday, the balance of the wells, namely, 76, were depreciated by you how?

A. One percent for each year of age.

Q. That is to say, you had before you the date of the completion of each of these 76 wells in the Hugoton Field and you simply deducted one percent per year of age for each well, did you not?

A. Yes, sir.

Q. In other words, if I correctly understand you, if a well was drilled in 1939, you simply deducted 2 percent for depreciation for that well?

A. That is right.

Q. Now, how did you arrive at that one percent figure?

A. That is a matter of judgment.

Q. Can you elaborate for us on that method, Mr. Biddison?

Let me get at it this way: Did you have any working papers that showed the process whereby the one percent per year was reached?

A. No, sir, that is a primary figure. That is the beginning point. I used one percent not because I believed that each well in that field has lost value to the extent of one percent per year of age. Many of those wells will have lost value at less than that rate; some of them have lost value at more than that rate, but, upon the average, a group [fol. 2610] of wells will, in my opinion, lose value on the average at about one percent per year for a considerable period of time.

It may well be that that rate will be accelerated at later dates, particularly if, at later dates, there be an appreciable amount of water encroachment.

Q. Did you base the one percent judgment figure per year upon any experience of Panhandle Eastern in the Hugoton Field?

A. No, sir.

Q. Or in the Panhandle Field, Texas Panhandle Field?

A. No, sir. There is no record of experience in those wells by which such a matter could be determined or even investigated.

Q. Did you determine that one percent figure from any other experience?

A. That is a matter of my own general experience in the handling of gas producing properties.

Q. In other gas fields?

A. Yes, sir.

Q. Not in these gas fields in which Panhandle Eastern operates, however?

A. Not as a manager myself of producing properties, no, but I have had access to information on other peoples' records as to what happened to some of their gas wells.

Q. Are you talking now about the Panhandle Field and [fol. 2611] the Hugoton Field?

A. I am talking particularly about the Panhandle Field.

Q. What does that experience show?

A. That experience showed that, with a few exceptions, wells showed no signs of any physical depreciation for long terms, 15 years or more.

Q. That is to say, if you looked at those wells, you could not observe any material physical depreciation, is that what you mean?

A. That is partly it.

Q. What is the rest of it?

A. And there were no indications manifested by the operating characteristics that indicated anything in the way of deterioration.

Q. Now, you did not observe any part of the wells owned by Panhandle Eastern that was below the surface of the ground, did you?

A. No, I previously acknowledged that.

Q. Nor of any other wells in the Panhandle Field?

A. No, I have never been below ground on any of those wells.

Q. Then what did you observe in those wells that caused you to come to the conclusion that you state you just reached with respect to your claim that there was no physical depreciation that you could observe? What do you mean by that?

[fol. 2612] A. I mean, as I said, that the records of their operations showed no indications of any deterioration.

Q. In other words, the records showed that they were still able to efficiently produce gas?

A. That is right. There was nothing in the operating records which indicated that anything had gone wrong.

Q. This one percent figure is kind of a loose estimate, is it not, Mr. Biddison?

A. I think that would be a matter of opinion. I think it is a good estimate.

Q. Is it one of those round and flat figures that you referred to the other day as being a judgment figure?

A. No, it is just a straight up and down one.

Q. Now, any school boy starting out with the premise of one for each year could have taken these 76 out of the 80 wells in the Panhandle Field and computed the amount of depreciation on that basis, couldn't he, Mr. Biddison, by just taking one percent for each year?

A: Certainly, that is really a matter of arithmetic.

Q: It was not much of a trick to do that?

A: No.

Q: Now, as to the remaining four wells, you varied the procedure somewhat, did you not?

A: Yes, sir.

Q: And that was, I believe, because you had received [fol. 2613] some information from the Production Department to the effect that something was wrong with those four wells as you described yesterday?

A: Yes, sir.

Q: Mr. Biddison, will you refresh my recollection whether you covered the four wells in the Hugoton Field yesterday?

A: I believe I did.

Q: Suppose we go back to one of them again. Let's take the Crawford No. 1-31-5464C. I believe that well is shown on Page 3 of Schedule 4 of Exhibit 17, Line 15.

Will you state what caused you to vary the procedure on that well?

A: The information I have is that this well is to be acidized, that the cementing of the casing is in such a condition that re-cementing is required before it can be acidized.

Q: When was that well installed or completed?

A: I do not believe I have a list here that gives the completion date on that well.

Q: Do you have the date of completion on the other three wells that you described yesterday for which you used a different method than the one percent per year method?

A: No, sir, I do not. I have such a list in my papers some place, but I do not have it with me.

Q: Now, going back to the Texas Panhandle Field, there are 55 wells in the Panhandle Field.

[fol. 2614] Mr. Culton: Just to clarify the record, do you know if that Crawford well is a partnership well or 100 percent well, Mr. Biddison?

The Witness: That Crawford well is a partnership well, 50 percent ownership in Panhandle Eastern.



By Mr. Littman:

Q. Now, there are 55 wells in the Panhandle Field upon which you made a determination of percent condition, are there not?

A. That is right.

Q. Thirty-six of which were determined by the straight one percent a year deduction method, is that correct?

A. Yes, sir.

Q. And 19 of which were by a somewhat different method which we will soon have you describe. Now, you have the dates of those wells, haven't you, before you?

A. Yes, sir, I do.

Q. Suppose we go to one of the 19 wells in the Panhandle Field on which you varied the usual procedure. Let's take the Sneed well No. 1025A and it also has the number 1-33 opposite it. When was that well first installed?

A. The completion date on that was 7-15-1931.

Q. What percentage did you deduct for depreciation of that well?

A. Fifteen percent.

[fol. 2615] Q. That is 5 percent more than would be indicated by the application of one percent for each of the ten years of its expired life?

A. That is correct.

Q. Now, will you tell us how you went about getting that 15 percent depreciation on that one?

A. The data on that well shows a poor job of cementing with water leaking in the well as the result. That is not depreciation. That is just bad construction.

This well also needs a new master gate, that is, the master gate that is on there needs to be retired and a new one put on.

Q. Isn't that the well that requires frequent blowing to keep flowing?

A. If it has some water leaking in it, frequent blowing might be required. I do not have any note to that effect.

Let me get straight on this, maybe I am reading the wrong well.

Q. This well is shown on Line 30 of Page 7 of Schedule 4 of Exhibit 17.

Mr. Culton: The Sneed well in Section 33 is what it is.

The Witness: The Sneed 1-33 well No. 1025A, requires frequent blowing to keep it flowing and, on that well, my deduction for depreciation is 15 percent.

By Mr. Littman:

Q. May I clear up this part of the record, Mr. Biddison. [fol. 2616] Your previous answer with respect to that well was in error, was it not?

A. Yes, the data which I gave applies to a different Sneed well.

Mr. Culton: What was the completion date on this well, if you have that figure before you?

The Witness: 7-15-1931.

Mr. Culton: You had the correct completion date, then?

The Witness: Yes, sir.

By Mr. Littman:

Q. Now, you may proceed with your explanation as to how you arrived at the 15 percent. The well was 10 years old?

A. It is my estimate that a well in that condition has lost 15 percent of its value. The situation can be remedied by additional investment, as will be needed to be done in most of the wells in this territory in any event, by the installation of a syphon.

Q. Well now, if that condition which you described which requires frequent blowing to keep flowing were not present, you would have placed a percent depreciation on that well of 10 percent, would you not?

A. That is right.

Q. You merely added another 4 percent depreciation by reason of the condition which you described?

A. Five percent, 5 percent is right.

[fol. 2617] Q. I beg your pardon, 5 percent.

Now, how did you arrive at that figure of 5 percent, Mr. Biddison?

A. That is my judgment of the amount of value that is lost by reason of that condition.

Q. Do you know how much money would be required to be spent to put that well back into 10 percent depreciation or 90 percent condition?

A. I do not know whether any amount of money would do that or not.

Q. Did you inquire of the production department how much money they expected to expend to remedy the condition which you describe?

A. No, I did not inquire as to the amount of money that would be required to remedy the situation. I estimated the amount of value that had been lost by virtue of the situation.

Q. How could you determine that this well should be depreciated 5 per cent below what it ordinarily would be depreciated at without making some investigation of the amount of expenditure that would be required to repair this condition which you describe?

A. I did not make any such determination. I determined that, in my judgment, this well had lost 15 percent of its value by virtue of the condition it was in.

I did not add 5 percent to 10 percent. I deducted 15 [fol. 2618] percent from the value of this well on account of the condition it was in.

Q. Mr. Biddison, if it did not have this condition which you describe, you would have put this well in 90 percent condition, would you not?

A. I would have deducted 10 percent.

Q. Well then, didn't you just add another 5 percent by reason of the condition which you found?

A. No, sir, I did not. I deducted a total of 15 percent for this particular well on account of the condition it was in.

Q. Did you have any further information about this well other than that you were told that it required blowing to keep flowing?

A. Yes, I had information that that condition would eventually be remedied by the installation of a syphon as is contemplated for practically all wells in both the Hugoton and Panhandle field.

[fol. 2619] Q. Well, let's have a look at the Thompson well No. 1-25-1041A in the Texas Panhandle Field which is shown on Page 8 of Schedule 4 of Exhibit 17 at Line 37.

A. The information is that the Thompson well makes a little moisture.

Q. Did you have any other information on that well?

A. No, that is the sum total of my notes.

Q. Now, Mr. Biddison, when was that well completed?

A. December 17, 1937.

Q. Will you look again, isn't that 1938?

A. My data show 1937.

Q. All right. Now, if you had not been advised that this well "makes a little moisture", how much would you have deducted for depreciation for that well?

A. Four percent.

Q. How did you arrive at the deduction of 15 percent?

A. That is my judgment that, because of this water condition, the well has lost some value and I estimate that loss to be 15 percent.

Q. With no other information than the notation to the effect that it makes a little moisture?

A. Yes. If there had been information available that this moisture was caused by faulty cementing, by the failure of the cementing or by the leakage of casing or some [fol. 2620] such factor as that, if there had been such information, I would have made a notation of it and would likely have had a different deduction for depreciation.

Q. Now, did you make any determination of how much would be required to be spent to put this well back in 96 percent condition?

A. No, I do not think anybody could make any such estimate as that.

Q. You have no idea of what would be required on this particular well to make the repair?

A. I do not think it can be done by repairs. I do not suppose it would be physically possible to ever put this well back in condition where this did not exist.

Q. What might cause this moisture condition?

A. Condensation of moisture out of the gas as it flows from the producing sand into the well bore.

Q. Well, I am referring now to what condition in a well might cause this to occur? Is it a condition that is inherent in the sand or is it caused by some difficulty in the well itself?

A. It may be caused by peculiar sand conditions at the proximity of the well bore. If the sand conditions be such that there be a material throttling of the gas close to the well bore, there is a refrigerating effect produced which tends to produce condensation in the well bore.

[fol. 2621] These conditions may exist in a well upon drilling in and they may develop at a later period. It is also true that water can come into a well through a bad job of cementing or through perforated casing.

Q. And you did not know what was the cause of this moisture condition, did you?

A. My notes were compiled on the basis of accounting for defects in the wells, if any were known to exist, which would cause any of these features.

I know, from my notes, of no defect in the casing or cementing job that would cause this.

Q. Some of those causes you mentioned do not have anything to do with the depreciation of a well, do they, Mr. Biddison?

A. Yes, if the cementing job goes bad, that is depreciation. If the casing corrodes and leaks, that is depreciation.

Q. What of the sand condition which you described?

A. I would say if the hole caves, that that depreciates the well. If bottom hole water were to come in, I would say that would depreciate the well. If the sand salts up so as to produce a throttling near the well bore with a resulting refrigerating action that causes precipitation of moisture in the well bore, I think that depreciates the well.

[fol. 2622] Q. Are there any conditions that might cause this moisture that do not have anything to do with depreciation of a well which you can think of? A. Yes.

Q. Name us a few of those, please?

A. It might have existed from the beginning, in which case it has not produced depreciation.

Q. So far as you know, that might be the cause?

A. So far as I know now, it is true that this might have existed on this well from the beginning. I do not now recall any information as to when this situation was first noticed.

Q. Now, what do you mean by a "little moisture"?

How much moisture is "a little moisture"?

A. Enough so that it is noticeable when a well is blown but not enough to produce material difficulties in the operation of the well.

Q. Well, suppose we go to the Burnett well No. 1031A. It also has another number, namely, 1-81, in the Texas Panhandle Field. It is shown in Schedule 4, Page 8, Line 4 of Exhibit 17. When was that well completed?

A. That well was completed November 7, 1935.

Q. Why did you vary the procedure in determining the amount of depreciation to be deducted for that well? When I speak of "vary the procedure", I mean, why did you not use the straight one percent a year deduction method? [fol. 2623] A. The information on this well is that this well does not feed properly, cause not determined.

Q. Will you enumerate the reasons why a well does not feed properly?

A. Well, there may be several reasons. It might not feed properly because of water in the well bore. It might not feed properly because of wetting of the producing sand in the neighborhood of the well bore. It might not feed properly because there was not any gas left. It might not feed properly because of caving of the well bore. It might not feed properly due to some construction in the flow string caused mainly by sand and rock particles having been carried upward in the flowing stream. It might not feed properly due to the deposition of salt in the producing sand.

Q. Would you put a figure of 20 percent depreciation on that well regardless of whatever caused that well to feed improperly?

A. No, I put that 20 percent on there because the cause had not been determined. If the cause had been determined, I might well have used a lesser percentage, depending on what the cause had been known to be.

Q. You would have used, I presume, your usual one percent a year deduction if you had known that the cause sprung from a condition that did not have to do with depreciation, is that a fair statement? A. Yes.

Mr. Culton: Mr. Littman, at this time, and so that the record may show, it might be advisable for me to state into



the record the meaning of the different identifications we have on these wells. We all understand it but the record does not show.

The name, for instance, with respect to the last well, I believe it was Burnett, refers to the name of the lessor. The No. 1, most of these have been No. 1 so far, refers to the number of the well on the lease, whether it is the first well, second well and so forth. The number following the dash, for instance 1-81 means that that was the first well drilled on the Burnett lease on section 81 and the next number, for instance 1031A, is the number of the well on the company records, representing the file in which the record of that well is found and "A" means it is in Texas.

The capital letters represent different States; I believe "A" for Texas, "C" for Kansas, "E" for Missouri.

Trial Examiner: What is the letter for Oklahoma?

Mr. Culton: I do not know whether it is "B" or "D", Mr. Examiner, because we do not have any wells there yet, but I assume it is "B" since it is coming up. We will soon have a "B" well since we are now drilling there.

By Mr. Littman:

Q. Now, this method which you have described generally [fol. 2625] occurred and was used for 19 wells in the Panhandle Field and by that I mean the method other than the straight one percent a year method?

A. That is correct.

Q. And for only four wells in the Hugoton Field?

A. That is correct.

Q. And all the rest of them were straight one percent a year, to summarize your testimony? A. Yes, sir.

Q. Now, will you please turn to your list of wells in the Local Area and describe, generally, the method used to depreciate the wells in that Local Area? It was the depletion method, wasn't it?

A. The basis for depreciation on these wells is to depreciate them substantially on the basis of their rock pressure decline below 35 pounds, 35 pounds being estimated by me to be the economic pressure limit at which drilling would be justified in that area.

Q. In other words, when you came to the wells in the Local Area, you then did base the depreciation upon the exhaustion or depletion of the gas supply, did you not?

A. Not strictly so, no.

Q. Mostly so?

A. No, sir. I definitely did not use the depletion method of depreciating the value of gas wells in the Local Area.

[fol. 2626] I believe that when the rock pressure in a field has declined to the point at which the drilling of wells would not be economically justified, that the existing wells are depreciated through obsolescence substantially in the proportion that the existing rock pressure is below that figure at which drilling would be economically justified and it is upon that basis that I did depreciate the wells in the Local Area.

Trial Examiner: Mr. Littman, will you refer us to a list of wells that you classify as wells in the Local Area?

Mr. Littman: You mean other than Exhibit 62?

Trial Examiner: Yes.

Mr. Littman: I am sorry I cannot refer to a list in this record other than that which appears on Page 8 of Exhibit 62.

Trial Examiner: Do you wish that list that you were evidently using copied into the record?

Mr. Littman: I think it would be well at this point to copy into the record Column A which appears on Page 8 of Exhibit 62.

Trial Examiner: Excluded Exhibit 62.

Mr. Littman: Yes.

Trial Examiner: I will now hand the reporter that list and she may extend it into the record at this point since there seems to be no objection on the part of anyone.

[fol. 2627] Line No.

Item

|   |             |          |
|---|-------------|----------|
| 1 | Local Area— | Kansas   |
| 2 | Wendte      | #1-5003C |
| 3 | Day         | #3-5024C |

|             |                           |          |
|-------------|---------------------------|----------|
| 4           | Tulloss                   | #3-5056C |
| 5           | Tulloss                   | #4-5057C |
| 6           | Tulloss                   | #5-5058C |
| 7           | Borland                   | #5-5086C |
| 8           | Borland                   | #6-5087C |
| 9           | Borland                   | #7-5088C |
| 10          | Ischey                    | #1-5092C |
| 11          | Detwiler                  | #1-5089C |
| 12          | Lewis                     | #1       |
| 13          | Total-Local Area—Kansas   |          |
| 14          | Local Area—               | Missouri |
| 15          | Morgan                    | #1-7105E |
| 16          | Pendelton                 | #1-7036E |
| 17          | Pendelton                 | #2-7037E |
| 18          | Boten                     | #1-7055E |
| 19          | Boten                     | #2-7056E |
| 20          | Boten                     | #3-7059E |
| 21          | Boten                     | #4-7060E |
| 22          | Boten                     | #5-7080E |
| 23          | Boten                     | #6-7081E |
| 24          | French                    | #1-7008E |
| [fol. 2628] |                           |          |
| 25          | Rich                      | #1-7022E |
| 26          | Total—Local Area—Missouri |          |

[fol. 2629] By Mr. Littman:

Q. Mr. Biddison, have you completed your description of the method used for depreciating the gas wells in the Local Area? A. Yes, sir.

Q. Am I correct in understanding your method, that it was the depleted condition of the wells in the Local Area that caused you to find such a high rate or amount of depreciation?

A. It was the fact that depletion had occurred to such an extent that drilling of the wells would not now be justified.

Q. But this is an entirely different method of basis of depreciating wells than that which you used for the wells in the Hugoton and Texas Panhandle fields, is it not?

A. Yes, because it is an entirely different situation. I have tried to adapt the method to the situation that exists, or use a method adaptable to the situation that exists with respect to all these wells.

Q. That is to say, you did not use the physical condition method, so to speak, in determining the depreciation for the wells in the Local Area, did you?

A. No, sir, I did not, because I do not think that that would produce the measure by which they have lost value. I think they have lost value to a greater extent than the [fol. 2630] extent of their physical deterioration.

Q. In other words, the wells themselves in the Local Area are still in good physical condition, are they not?

A. Fairly good, yes.

Q. Notwithstanding the fact that you, in this case, disregarded that physical condition and looked rather to the depleted condition of the field to find the answer?

A. That is right.

Q. Now, is that condition going to someday come about in the Panhandle and Hugoton gas fields? A. Yes.

Q. Do I understand that there will come a time in the Panhandle field and the Hugoton field when you will change your method of determining the amount to be deducted for depreciation?

A. There will come a time when if I have a similar proposition before me, I will use a different method.

In other words, when the conditions in those fields are such that the drilling would not be justified if the wells were not already in existence, I would deduct for depreciation an amount generally in excess of that represented by the deterioration which had occurred, and would base the deduction upon the amount by which the rock pressure had declined below the point at which development was justified economically.

Q. Now, when were the last rock pressure readings [fol. 2631] taken on these Local Area wells?

A. 1936, in September.

Q. The data which you used, then, for determining your depreciation for the Local Area wells, was five years old, was it not? A. Yes, sir.

Q. Did you have any rock pressure reading on the first well in Kansas, called the Wendte No. 1-5003-C?

A. No, sir.

Q. What was the rock pressure reading in 1936 on the next well, the Day well?

A. Thirty pounds.

Q. Did you have any rock pressure reading on the next well called Tulloss No. 3? A. No, sir.

Q. The reading on the Tulloss No. 4 was what?

A. Sixty pounds.

Q. And the Tulloss No. 5?

A. Seventy-five pounds.

Q. The Borland No. 5?

A. Twenty-five pounds.

Q. The Borland No. 6? A. No test.

Q. The Borland No. 7? A. Fifteen pounds.

[fol. 2632] Q. The Ischey No. 1? A. Thirty pounds.

Q. The Detweiler No. 1? A. No test.

Q. The Lewis No. 1?

A. No test for rock pressure.

Q. Now, let's go through the wells in the Missouri Local Area, the Morgan No. 1?

A. Seventeen pounds.

Q. The Pendleton No. 1? A. No test for pressure.

Q. The Pendleton No. 2? A. Fifteen pounds.

Q. The Boten No. 1? A. Eighteen pounds.

Q. The Boten No. 2? A. Seventeen pounds.

Q. The Boten No. 3? A. Nineteen pounds.

Q. The Boten No. 4? A. Seventeen pounds.

Q. The Boten No. 5? A. Seventeen pounds.

Q. The Boten No. 6? A. Nineteen pounds.

[fol. 2633] Q. The French No. 1?

A. Fifteen pounds.

Q. The Rich No. 1? A. Twelve pounds.

Q. Those wells are all still in operation, are they not?

A. They were as of June 30, 1941, yes, sir.

Trial Examiner: They were all shallow wells that were rather inexpensive, were they not?

A. Very inexpensive wells, Mr. Examiner. The total estimate of original cost of these wells is only about fifteen thousand and some odd dollars. That is based upon the book cost of those wells for which a separate cost can be ascertained from the books and an estimated figure for other wells which were required in connection with leases and for which the separate cost of the wells could not be ascertained.

Trial Examiner: How old are they?

The Witness: I do not have a record here of the individual age, but some of these wells are in the neighborhood of ten years old. Some of them may be a little older than that.

Mr. Wheat: I may state in response to the Examiner's questions that I am informed by Dr. Bartle those wells were brought in starting in 1929 and 1930.

Trial Examiner: Thank you.

[fol. 2634] By Mr. Littman:

Q. Did you see any of these wells in the Local Area?

A. I have seen a few, not very many, and I did not make specific notes as to any well in the Local Area. I saw a number of them in 1938 but I only saw a few of them which could be seen from the highways, driving through in the inspection of 1941.

Trial Examiner: These, I assume, are all dry gas wells?

The Witness: Yes, sir.

By Mr. Littman:

Q. Now, going back to the wells in the Panhandle and Hugoton fields, do I understand that you would expect to find the depreciation taking place at an accelerated rate along towards the end of the life of these wells?

A. Yes.

Q. In other words, it would be a rate higher on the average than 1 percent a year? A. Yes, sir.

Q. That being the case—assuming that that is the fact—your rate of 1 percent does not represent an average age over the entire life of the well, does it? I should have said “average rate” over the entire life of the well. I didn't mean to say “average age”.



A. No, it doesn't. It represents my estimate of that which has occurred.

[fol. 2635] Q. I am now speaking of the 1 percent per year rate.

A. I am too. 1 percent per year is my estimate as the average figure for these wells to represent the amount of depreciation which has occurred in those wells except for those wells for which I have made other specific allowances as has been pointed out.

Q. But it doesn't represent the average rate that would be expected per year over the entire life of the well. Is that correct? A. That is correct.

Q. Would it be higher or lower over the average of life?

A. It would be higher over the average life.

Q. Now, Mr. Biddison, referring again to Exhibit 69 in lines 30 and 31, you make a deduction of \$7,802.70 from book cost for depreciation of transmission measuring station structures, do you not? A. Yes, sir.

Q. How many transmission measuring and regulating structures are owned by Panhandle Eastern Pipe Line Company and its subsidiary, Illinois Natural Gas Company?

A. I don't have anything before me from which I can give you that figure.

Q. Can you give us a general figure?

A. No, I have nothing before me from which I can do [fol. 2636] that. I can refer to Exhibit No. 39 and obtain that figure, I believe; but I don't have anything before me now from which to obtain it.

Q. Will you please determine that figure at the next recess? A. Yes, sir.

Mr. Littman: Off the record.

(Discussion off the record.)

The Witness: This Schedule 8 is not a complete listing of those buildings.

Trial Examiner: Identify Schedule 8, Mr. Biddison.

The Witness: Exhibit 17.

By Mr. Littman:

Q. Well, suppose you supply the figure later on, Mr. Biddison, in order to save time.

You do know that there are a great many of these transmission measuring and regulating structures, are there not? A. Yes, sir.

Q. They run well up into the hundreds, do they not?

A. Yes, sir.

Q. How many of them did you personally observe and make inspection notes on?

A. Well, I will have to count that up.

Q. Can you give us the figure now?

A. It will take me some little time to make a determination on that, to count them up.

Q. Do you have a general idea of how many you observed?

A. Under this classification I probably observed about 75.

Q. I see. Well, now, what percentage did you deduct for depreciation of the production stations in Texas?

A. 10 percent.

Mr. Wheat: And what stations are you talking about, measuring stations or something else?

Mr. Littman: The production stations.

Mr. Culton: What line is that?

Mr. Littman: I am not referring to any line.

Off the record.

(Discussion off the record.)

By Mr. Littman:

Q. You gave us the figure for your production stations in Texas and in Kansas? A. 10 percent.

Q. How about the Kansas Local Area?

A. 10 per cent.

Q. Missouri Local Area? A. 10 percent.

Q. Now, what percentage of depreciation did you deduct for the purchase stations in Texas?

A. 10 percent.

[fol. 2638] Mr. Culton: I am really asking for information. Do you mean purchase measuring stations and production measuring stations?

May I understand you one way. I don't know whether there is such a thing as a production station. There is a

production measuring station, of course, and I am just asking for information myself.

Mr. Littman: I am using Mr. Biddison's language and terms at this time. I would be glad to have him explain the meaning.

Mr. Culton: That is the reason I asked you which line you are talking about.

Mr. Littman: Transmission measuring and regulating station structures.

Mr. Culton: That is why I asked the question. You didn't use the word "measuring".

Mr. Littman: Of course, I am talking about the transmission measuring and regulating station structures.

By Mr. Littman:

Q. Now, we have gotten down through the Oklahoma purchase stations. How about Kansas purchase stations?

A. 10 percent.

Q. The Kansas Local Area? A. 10 percent.

Q. The Missouri Local Area purchase stations?

[fol. 2639] A. 10 percent.

Q. What percent of depreciation did you deduct for the wholesale sales stations, speaking now of transmission and regulating station structures in Texas? A. 10 percent.

Q. In Indiana? A. 10 percent.

Q. Now, Mr. Biddison, will you state how you arrived at the 10 percent figure for depreciation for the production stations in Texas, Kansas and Missouri?

A. From what I saw of their stations it is my estimate that 10 per cent of their value has been lost.

Q. Did you make detailed notes as to each station that you saw? A. Yes.

Q. Well, now, will you give us—

A. No, not as to each station I saw, but as to each station of which I saw enough to justify a notation.

There were numerous stations which I saw just in passing by on which I made no notations.

Q. Did you give the ones that you saw 10 percent in each case, or did you give some more or some less, and then average them up?

A. I gave them more or less, and upon reviewing my notes I used 10 percent as representing the average of all [fol. 2640] the observations, not the numerical average but the concluded average.

Q. They all look pretty much alike, don't they, Mr. Biddison? A. Yes.

Q. You couldn't tell from looking at any one of them what its age was, could you? A. No, sir.

Q. They are all painted, I presume. A. Yes, sir.

Q. What did you observe about these structures other than the paint on the outside that gave you enough information upon which to base a determination of a percentage depreciation?

A. Well, I noted whether the painting on it was in good condition and whether it needed paint. In some cases I noted whether or not there had been a thinning of the galvanized coating on galvanized sheets, whether the windows and doors were in good condition, and items of that nature.

Q. Did you examine any of the structures and I am now speaking of the transmission regulating and measuring stations structures in the Local Area? A. Yes.

Q. How many? A. I believe only one.

Q. How many of them are there in the Local Area? [fol. 2641] I think there are seven.

Q. You applied the percent depreciation to the remaining six based on the one that you saw in that area?

A. Yes, sir.

Q. And generally that same method was used throughout for the purpose of determining the amount to be deducted for depreciation on these structures? Is that not correct?

A. That is correct. My object was to see enough of the structures to form a conclusion as to the general condition in which they had been kept, and, from that to form a conclusion as to the amount of value which has been lost by depreciation.

Q. Do you know whether or not the ratio of those which you saw to those which you did not see was 1 to 10 or what, throughout the system?

A. I think it would be nearer about 1 to 3.

Q. Well, you will check that, will you not, during the noon recess and give us the figure based upon the actual count?

A: I will try to get that at noon.

Q: Now, are the measuring stations in the Local Area going to be of any value after the gas is totally exhausted in those wells?

A: No, except for such salvage as there may be there and there will be practically none in the structures.

Q: Now, that day is close at hand, is it not?

[fol. 2642] A: Yes, sir, it is.

Q: Yet you did not base depreciation of the structures in the Local Area upon the depleted condition of the field, as you did in the case of the wells in that field?

A: That is correct, I did not do so.

Q: Why?

A: On the production measuring station structures in the Local Area, I believe I should have depreciated them more heavily. However, as to the gas purchase stations in the Local Area they are not in quite the same condition as the production measuring stations because production is being maintained by these other producers and the life of those structures and that equipment will be considerably longer than for the company's own production.

Q: Mr. Biddison, is it simply a coincidence that you have so many flat 10 percents for deductible depreciation on these structures, some of which are located in Texas, others in Kansas and others in Oklahoma and others in Missouri?

A: No, it is the result of the fact that I think this property in general has lost 10 percent in value.

Q: Now, you mean your thought is general or the result is general?

A: The result is general. I think in general these properties have lost 10 percent in value.

Q: That is another round figure, is it not?

[fol. 2643] A: One of the digits in there is a round one. I don't think it would be possible to determine with a high degree of accuracy the amount by which these structures have depreciated without consuming a great many times the amount of time that was available in which to make a determination and without entailing an expense that would be almost as much as the amount of the figure we are trying to ascertain.

Q. Well, Mr. Biddison, some of those production stations in Texas and purchase stations in Texas, are approximately ten years old, are they not?

A. That is right, and some are of very recent construction.

Q. Now, according to Mr. Hinton, these structures will be abandoned in fifteen years when, according to his estimate, the gas will be exhausted in the Panhandle field.

As a matter of fact, you used a remaining life of fifteen years in Exhibit 66, did you not, Mr. Biddison?

A. That is substantially right, yes.

Q. Now, insofar as all of those production stations and purchasing stations in the Texas field are concerned, they only have a remaining life of fifteen years, don't they?

A. That is right.

Q. And some of them having been built in 1931 have had almost a half of their life exhausted by now, have they not?

A. Well, if they are ten years old and have fifteen [fol. 2644] years of future expectancy, 40 percent of the life has expired.

Q. But, of course, you didn't relate your percentage to be deducted for depreciation to the life of that property, did you? A. Certainly not.

Q. Or, of any property in the Panhandle Eastern System with some minor exceptions?

A. That is correct, because I do not think that the relationship of age to the life fixes the amount by which property has depreciated.

[fol. 2647] The Witness: The deduction in column D, line 36 on Exhibit 69, is the composite result of the deductions from several groups or classifications of measuring station equipment.

[fol. 2648] On some of this equipment the deduction is 5 percent, some is 10 percent, and some is 15.

By Mr. Littman:

Q. Have you completed your answer, Mr. Biddison?

A. Yes.

Q. Now, coming back to the deduction of the flat 5 percent for the equipment in the Local Area, is it your



testimony that the salvage value of that equipment is anything like 95 percent?

A. No, I didn't testify to that.

Q. You know that the field is about to be abandoned, do you not?

A. I know that the company owned wells are about to be abandoned.

Q. And what is going to happen to this equipment?

A. It will be used at other locations for similar purposes.

Q. By Panhard & Eastern? A. Yes.

Trial Examiner: Let me ask you, Mr. Biddison: This testimony you have been giving about the depreciation, the last few pages of questions and answers, have you been basing your deductions for the depreciation covering the life consumed in any way on a prospective salvage value? Has that been taken into consideration?

[fol. 2649] The Witness: No, sir, Mr. Examiner. What I have taken into consideration was simply the amount of value which I believed to have been lost, that value being fixed after investigation of the property.

Trial Examiner: You are not basing it on salvage value or on depletion, but rather on physical conditions?

The Witness: That is correct.

By Mr. Littman:

Q. Will you describe briefly what this regulating station equipment looks like? I am speaking about regulating and measuring station equipment generally.

Trial Examiner: You probably mean of what does it consist, don't you, Mr. Littman?

By Mr. Littman:

Q. Oh what does it consist. I don't mean for you to go into great detail on that, Mr. Biddison.

Mr. Culton: I think Mr. Burnham's Exhibit has a photograph of it, if I am not mistaken.

The Witness: The measuring and regulating stations consist in general of pipe running into the station lot from the transmission main and have attached a meter either

of the orifice type or of the displacement type, and a regulator whose function is to automatically reduce the pressure of the incoming gas from whatever pressure that may be, to a uniform predetermined pressure.

[fol. 2650] The gas may pass first through the meter and then through the regulator, or the reverse order may be used.

The regulating device and the meter are in some cases housed in a single structure and in some cases they are separately housed. Regulation is not always performed in connection with measurement, but in the case where both functions are performed the gas is again conducted through a pipe from the site of the measurement and regulation, back to the transmission main, there being a cutoff valve in the transmission main between the inlet connection to the measuring station and the outlet connection from the measuring station, -

Now, in connection with this measuring and regulating equipment there are valves of various sorts and sizes; quite often there are welded steel headers, and generally there are recording gauges to record the pressure, and in the case of displacement meters the volume, which passes through the meter, as well, and in the case of orifice meters and gauge would record the pressure on the orifice and the pressure drop across the orifice.

Some of these stations are multiple stations; others may have two or more runs of pipe through such a station with the appurtenant meters and fittings and regulators.

[fol. 2651] Q. Now, have you examined a number of stations in which that equipment is?

A. Yes, sir I have.

Q. On the average, how much time did you spend at each station examining the equipment?

A. Probably ten minutes?

Q. And what did you do during that ten minutes in order to determine this percent?

A. Looked at the equipment, looked the equipment over.

Q. What did that consist of: just having a look around?

A. That is right.

Q. Did you open up any of the equipment and take a look inside?

A. No, sir, I did not.

Q. That can be done, can it not, on certain of the equipment?

A. It can be by shutting the station down or taking part of it out of operation.

Q. Well, did you look at the works in the meters?

A. No, sir.

Q. You can do that without shutting it down, can't you?

A. No, sir.

Q. What equipment could you make a thorough examination of without shutting down the station?

[fol. 2652] A. The outside surfaces of all of it, and that is all.

Q. Is it much of a trick to shut down a station and start it up again?

A. Well, these stations which are serving communities must be kept in operation or some other means provided whereby the communities can be supplied with gas. If it is a measuring station on a well it requires shutting off the well.

Q. Do these stations have by-passes?

A. The measuring stations to some of the distribution plants would have by-passes, but those on wells generally not.

Q. Well, what about the pipe in the station? Did you examine that? A. Yes.

Q. What did you see outside of the paint on the pipe?

A. That is about all you could see, and I determined that it was kept well painted and there were very seldom any indications of any corrosion whatever.

Q. You didn't scrape the paint off of this pipe? A. No.

Q. Did you observe any depreciation on any of the equipment other than merely the deterioration in the paint?

A. That is about all I could see.

Q. Do you have any working papers that show any detailed study of this equipment?

A. You have had all the working papers that I have [fol. 2653] on that matter.

Q. We don't have any papers that show any detailed study and we assume that that is the fact.

A. There is not much detail to the study. I have observed the equipment and reached a conclusion as to the amount by which it has lost value.

Q. You didn't put down a percent for each part of the equipment that is housed in these regulating and measuring structures, did you?

A. No, sir, I did not.

Q. It was just a general percentage estimate for the whole works, was it not?

A. That is correct.

Q. Based upon what you have referred to as your judgment? A. Yes, sir.

[fol. 2659] By Mr. Littman:

Q. Well, let us then discuss the \$40,001.80 of gathering lines other than Local Area lines which is included in Line 20 of Exhibit 69.

Is my understanding correct that you made a deduction of 10 percent for depreciation of those \$40,000-odd worth of lines? A. That is correct.

Q. How many miles of well lines are represented by that account? I am still talking about the \$40,000-odd.

A. I do not know.

[fol. 2660] Q. Can you give us a rough idea?

A. No, I cannot. I have not any figures on this available here.

Q. Did you make any detailed inspections on any of those lines? A. Yes.

Q. How many inspections did you make?

A. I am not certain of the division of my observations between what are classed well lines on Exhibit 69 and other lines but as to what I have called well lines in my compilation for Exhibits 39 and 62, I have but one observation on a well line and that would generally correspond to gathering lines as shown at Line 20 on Exhibit 69.

There may be some of the others of my observations which really would apply on what is classed on Exhibit 69 as gathering lines but I cannot sort it out here.

Q. Well, I understand your testimony to be on direct examination that you did not make any detailed inspections of these gathering lines but that you applied the findings on other gathering lines to these particular gathering lines which you had classed at one time heretofore in this proceeding as well lines.

A. That is substantially right. However, I find my notes do show that I inspected Line AW-1032 and the designation "AW" means that it is a well line in Texas.

[fol. 2661] Q. Did you make any inspections on the \$18,695 worth of Local Area gathering lines that you mentioned a moment ago? A. I did not.

Q. So that out of the total of \$59,707.45 which appears in Line 29 of Exhibit 69 entitled "Gathering Lines," you made the one personal inspection?

A. That is correct and I based my deduction upon the condition found on other lines in the area as respects the gathering lines in Hugoton Field and Panhandle Field.

[fol. 2674] By Mr. Littman:

Q. Now, referring to the gathering lines in the Local Area which you claimed have a book cost of \$18,695.65 and which you claimed you found 80 percent depreciated, what method did you use to determine the depreciation for those lines, bearing in mind that you have already stated that you did not inspect those lines.

A. The method which I used was to give consideration to the fact that many of those lines would have short future life, that a great deal of it had never been very well protected when it was originally laid and that its value as of today was not greatly in excess of junk value so I just depreciated it 80 percent.

Q. It was based very largely, was it not, upon the depletion of the gas supply?

A. No, sir, rather upon the fact that the life of those lines in any one location in that area is short and total supply of gas in that area, from wells not owned by Panhandle Eastern Pipe Line Company, is expected to continue for quite a long while but the life of individual wells is short and these lines require considerable shifting and rearranging to keep up with the shift in the center of production.

For that reason, I am satisfied, upon inquiry, that the lines themselves have suffered considerable physical depreciation, and it is also true that loss through obsolescence is imminent on a good deal of that property so, combining all of the factors, it is my judgment that they are worth about 20 cents on the dollar so I depreciated them 80 percent.

Q. When you speak of obsolescence in this instance, you are referring to obsolescence by reason of the depletion of the gas field or by reason of the depletion, rather, of the wells served by these lines?

A. That is right.

Q. In other words, this is an entirely different method used by you in the Local Area than was used by you in determining the percent of depreciation for similar lines in the Panhandle Field and Hugoton Field, is that correct?

A. Yes, sir, because the conditions are different. I applied a method which I thought would account for the conditions.

Q. Now, what condition usually brings about the retirement of a line that serves a well which you have sometimes referred to here as well lines and which is classified here as gathering lines?

[fol. 2676] A. The line may become pitted, rusted out, for one thing. As the well becomes old and the rock pressure lower, they may become inadequate for another thing and require to be changed on that account.

This is quite a common reason because, as the rock pressure declines, in order to maintain production it often becomes desirable to install well lines of larger diameter.

Another factor, of course, is the failure of the well itself.

Q. That is to say, the exhaustion of the gas in the well served by the line?

A. Yes, sir.

Q. Isn't the last cause the most prevalent one for lines that serve individual wells?

A. I think so, yes, sir.

Q. That is to say, may we not agree that ordinarily the well line will outlast the supply of gas coming from a particular well, physically?



A. No, I would not say that. I would not say that. I will agree with you, however, that exhaustion of the gas supply of a well is the most common cause for retirement of a well line.

Q. You fully expect that to be the case with the well lines or gathering lines that serve particular wells in the Panhandle Field, would you not, inasmuch as according to [fol. 2677] your testimony that field will be exhausted, according to your Exhibit 66, within 15 years from today?

A. I expect the bulk of the retirements of well lines in that area to be due to exhaustion of gas supply, yes sir.

Q. And what would you say with respect to the lines in the Hugoton Field?

A. The same thing.

Q. Now, let us proceed to the lines called "Transmission Mains" shown in Exhibit 69 at Page 1 on Line 37:

How many miles of gathering lines are included in the classification labeled "Transmission Mains", from the book cost of which you deducted \$2,741,396 for depreciation?

Incidentally, when I speak of gathering lines now, I am not referring to the trunk gathering line, so-called, by your running from Windmill Junction northward.

A. I do not believe I have any figure with me from which I can give you that.

Q. Will you furnish that figure later in order to save time?

A. I will try and obtain it for you, yes, sir.

Q. Incidentally, before I forget, are you prepared to state now how many transmission station metering and regulating structures there are in the Panhandle system?

A. No, sir, I did not get an opportunity to get that compilation made.

[fol. 2680] By Mr. Littman:

Q. Mr. Biddison, I believe you were going to tell us the approximate mileage of the gathering lines other than the trunk gathering line which runs from Windmill Junction north. When I use the term "trunk gathering line" for that Windmill Junction line, I am, of course, using your term, you understand.

A. Excluding the 22 inch line from Windmill Junction to Liberal Station, according to the statement in Schedule 11 of Exhibit 17 there are approximately 383 miles of gathering lines outside of the Local Area.

Q. How many inspections did you make on those 383 miles of gathering lines?

A. Forty-nine.

Q. Were you present at each of those inspections?

A. Yes.

Q. Now, what is the approximate length of the line which you have called a trunk gathering line, extending from Windmill Junction, Texas to Liberal Compressor Station in Kansas?

A. I believe it is about 110 miles.

Q. How many inspections did you personally make on that line?

A. Thirty-nine.

Q. Did you make any inspections on the Beaver River [fol. 2681] crossing on that line?

A. No.

Q. On Cimarron River crossing of that line?

A. Yes, sir.

Q. You deducted approximately 5 percent, did you not, for this so-called trunk gathering line, for depreciation?

A. Yes, sir.

Q. How did you make a determination of the percent to be deducted for the Beaver River crossing which, as you say, you did not inspect?

A. I included it with the balance of the lines.

Q. You did not apply the finding made by you upon inspection of the Cimarron River crossing to that of the Beaver River crossing, did you?

A. No, sir.

Q. What percent did you deduct for depreciation of the Cimarron River crossing which you state you inspected?

A. I used 95 percent.

Q. 95 percent condition or 5 percent—

A. Or 5 percent deduction, yes, sir.

[fol. 2682] Q. What was the deduction for depreciation on the Beaver River crossing which you did not inspect?

A. 3 percent.

Q. Now, if you had applied the finding by inspection of the Cimarron River crossing to that of the Beaver River crossing, you would have deducted approximately another 2 percent, would you not, for depreciation?

A. Yes, sir.

Q. Now, Mr. Biddison, you stated that you have determined the percent to be deducted for depreciation for the Beaver River crossing from the other inspections which I take it were not at river crossings. Is that correct?

A. Yes.

Q. That is, for this line.

[fol. 2683] A. Yes. It is in at the same percentage of deduction for depreciation as the balance of the line in the state of Oklahoma.

Q. Now, how did you arrive at such a conclusion as that, not having made any inspection at all on the Beaver River crossing?

A. My conclusion was that in view of the conditions noted on the pipe line, that an allowance of 3 per cent for that section of the line including the river, was an ample allowance for the depreciation which had occurred upon it.

Q. You are merely restating your conclusion, Mr. Biddison. I wanted you to give me the reason for the conclusion.

A. The reason for it is that having made the inspection it is my opinion that a 3 percent allowance for depreciation upon that section of line, including the river crossing, was an ample allowance for the depreciation which had occurred.

Q. That is not the method you used for determining the percent to be deducted for depreciation on river crossings on the main line, was it?

A. No, sir. I think it was in some instances but not in all of them.

Q. Why did you vary your method here from the usual one followed, or was there no reason for it particularly?

A. Well, I could have done it this way or some other [fol. 2684] way, but I just picked out this method to do it. That is all.

Q. Wouldn't you ordinarily expect to find conditions at river crossings, where, as here, the crossing is under the

river, different than conditions ordinarily found elsewhere on such a line?

A. Yes.

Q. River crossings such as the one at Beaver River, you would ordinarily expect to find in a further depreciated condition than elsewhere ordinarily, would you not?

A. Yes.

Q. Well, let's turn to main lines, and when I use the term "main lines" now, I am referring to the main transmission line running from Liberal Compressor Station north and east to Dana Station at the Indiana-Illinois State Line.

I exclude the lateral lines from this term, and I include the loop lines within the term.

Will you please state the approximate mileage of the main lines as I have defined them?

A. Approximately 1,157 miles.

Q. And how many inspections did you personally make on those main lines?

A. 298.

Q. Will you state the percent which you deducted for depreciation of the main lines within the meaning of the term as I have defined it?

[fol. 2685] A. Approximately 3.6 percent.

Q. Now, of course, that is the largest account, isn't it?

A. Yes, sir.

Q. What is the size of pipe embraced within the meaning of that term?

A. 20 inch, 22 inch, and 24 inch.

Q. Now, there are a number of river crossings on the main transmission lines, are there not?

A. Yes, sir.

Q. How many of those river crossings did you personally inspect? When I use the term "inspect", Mr. Biddison, I mean a detailed inspection.

A. I believe only on the Arkansas and the Missouri and the Mississippi Rivers.

Q. The Mississippi River crossing is an overhead crossing, is it not?

A. There is both an overhead crossing and an underwater crossing.

Q. Which one did you make the detailed inspection on?

A. Both. Of course, on the underwater crossing we had to excavate to see the pipe. The overhead crossing was visible from the bridge and from the approach.

Q. I see. Well the Arkansas River crossing is on the main line, called Kansas Line 100, is it not—well, and Kansas Line 200, the latter of which is the loop line?

[fol. 2686] A. That is correct.

Q. You did not make any examination, I take it, or detailed inspection, of the Neosho River crossing in Kansas?

A. No, sir.

Q. Or the Osage River crossing?

A. No, sir, I did not.

Q. How did you determine the percent of depreciation for those latter two river crossings, Mr. Biddison, not having inspected them?

A. I used my judgment and assigned a figure that I thought was ample to cover any depreciation that might have occurred upon them.

Q. Your judgment in that regard was based upon what facts?

A. Upon the inspections I did make on river crossings and upon my knowledge of the general care in maintaining this property.

Q. Well, can you tell the condition of one river crossing by examining another river crossing, especially when they are two different rivers?

A. No, but one can form an enlightened judgment as to what the condition of the property in general is by making observations upon selected items of that property.

That is the general practice in sampling and in inspection.

Q. Why didn't you inspect the Neosho River crossing [fol. 2687] and the Osage River crossing?

A. Purely and simply because there was a dead line set as to when I had to appear before this Commission with the data which I was accumulating.

Q. That is to say, you did not have ample time to make the inspection?

A. That is correct. However, I did make such inspections as would, in my judgment, be required to determine

the value and condition of the property for the purpose of purchase or sale.

Q. Well, there are two crossings at each of these three rivers, if I correctly understand you, are there not, Mr. Biddison, that is one for the loop line and one for the main line?

A. I am not sure I know which three rivers you are talking about.

Q. I am referring to the Arkansas River, the Neosho River and the Osage River.

A. That is correct.

Q. And you applied your findings by inspections on the Arkansas River crossings, to those of the Neosho River [fol. 2688] crossings and the Osage River crossings, did you not?

A. That is right.

[fol. 2689] Q. Now, Mr Biddison, there are some river crossings on the main lines entitled "Main Line 100" and "Loop Line", "Main Line 200", are there not?

A. Yes, sir.

[fol. 2690] Q. The Missouri and the Mississippi River crossings. You did not examine the Lamine River crossing, did you?

A. No, sir.

I applied to the Lamine River crossing the data which I derived from the Missouri River crossing.

Q. Now, at what hour of the day or night did you make an inspection of the Missouri River crossing?

A. This inspection was made on August 22, 1941.

Q. Do you recall what hour of the day or night it was that inspection was made by you?

A. I believe this was rather late in the evening.

Q. Do you remember what time it was?

A. No, I made no record of the time of day of any inspection.



Q. As a matter of fact, this inspection was made by you after dark, wasn't it?

A. Partially so.

Q. You took a picture at this inspection point too, did you not, Mr. Biddison?

A. Yes.

[fol. 2691] Q. That is, with your camera, the same one that you described a moment ago?

A. Yes, sir.

Q. And you used a flash bulb to get that picture, did you not, because of the darkness?

A. I did in an attempt to get that last picture.

Q. What was the last answer?

A. I did in an attempt to get the last picture.

Q. We are referring now to the Missouri River crossing?

A. Yes, sir, and I say in an attempt to get the last picture at that river crossing I used a flash bulb.

Q. Did you take any other pictures at this particular crossing?

A. I believe so. I made two shots at that river crossing, one on the group of lines on Line 100 and one on the group of lines on Line 200.

Q. Which one of those lines was inspected by you after dark?

A. Group of lines on Line 200.

Q. Do you know a Mr. George Shattuck who is a member of the engineering staff of the Federal Power Commission? A. Yes, sir.

Q. He was present with you at that latter inspection, was he not? A. Yes, sir.

[fol. 2693] B. Mr. Lattman:

Q. What is the fact with respect to these two river crossings, Mr. Biddison? Will you give us a description of these two river crossings?

A. On the Missouri River?

Q. I am talking about the Mississippi.

Mr. Wheat: The Examiner asked about the Missouri.

[fol. 2694] The Witness: On the Missouri River both the crossing on the original Line 100 and on the Loop Line 200, or underground crossings, multiple crossings.

Mr. Wheat: You mean underwater crossings?

The Witness: Yes, sir, laid in the stream bed and the multiple lines on each side of the river carried up to comparatively high ground to be out from the flood plain.

On the Mississippi River crossing the original crossing is on a bridge and in 1936 an additional crossing of the Mississippi River was made upstream from the bridge as a multiple line underwater crossing.

Q. Now, when you make an inspection on a river crossing that passes under the river, what kind of an inspection do you make? You don't look at the pipe in the water, do you?

A. I did not do so.

Q. Is that usually done, or can it be done?

A. Well, it can be done by going in there and taking off the probable five to six feet of cover and sending a diver down, but otherwise it cannot be done.

Q. What is the method you used?

A. What I did was to look at the pipe on the multiple line approaches to the stream.

Q. Is that on one side or both sides?

A. I looked only on one side.

Q. How far was that ordinarily from the bank of the [fol. 2695] river?

A. Well, on the Missouri River that was about a quarter of a mile, I believe, possibly one-half.

Q. Why didn't you make your inspection at a point closer to the river than one-quarter of a mile or one-half of a mile?

A. Because we were in the flats where we had the river bottom soil and river bottom conditions and I picked a location that would be fairly accessible.

Trial Examiner: May I ask, Mr. Biddison, if you are able to state, what is the effect of corrosion on these pipes that are laid under river beds? Is it greater or less or similar to the corrosion in the ordinary soil?

The Witness: It is very much less than the corrosion which you ordinarily experience on the land approaches to the streams.

Pipe lines continuously submerged in water, except in some rather unusual cases where you might have mine water overflow or drainage from some chemical plant that would produce a high acid condition of the water, show very little effects of corrosion after a great many years and, that is true even on lines laid under salt water.

These lines under salt water will quite generally corrode at the water line where the pipe is subjected both to the salt in solution and oxygen from the air, but those parts [fol. 2696] continually submerged corrode very, very slowly, and will last a great many years without any difficulty from pitting.

I have never known of difficulty in the stream bed of an ordinary river from pitting.

Mr. Wheat: May I ask a question also along that line?

Are any of the crossings of this line we are talking of in this case, the river crossings, so located as to be just below a mine or some chemical plant such as you mentioned in your last answer?

The Witness: Not on the main lines. There may be some minor situations in that respect with regard to some of the smaller lateral lines in the state of Illinois.

By Mr. Littman:

Q. I take it from the answer you have just given that the depreciation on well constructed underwater crossings then, would be very slow?

A. Yes, sir, it would be very low. The underwater crossings may require a high rate of accrual to maintain them against factors other than the deterioration of the pipe, but as to deterioration of the pipe itself in such a stream crossing, that is very slow.

Q. I take it from your last answer that the annual allowance for depreciation in such instance should be high, but that the deduction for depreciation from book cost [fol. 2697] should be very low.

A. Comparatively so, yes, sir.

Q. Did you make any tests of the waters in these rivers to ascertain their corrosive effect on these main lines?

A. No, sir, I did not.

[fol. 2700] Q. Now, what kind of inspection did you make of the overhead river crossing of the Mississippi River?

A. Well, the inspection on the Mississippi River I find was confined to the overhead crossing and I simply looked at it as we went over the bridge.

Q. In an automobile?

A. I believe we got out on the east side and went down below the bridge approach to look at the pipe bends at that side of the crossing.

Q. How much time did you spend looking at the pipe [beds]?

A. Just a few minutes.

[fol. 2701] Q. The rest of your inspection of that overhead river crossing consisted of looking at it while driving by in an automobile?

A. I looked at what could be seen from the approach on the west side too. I do not believe I got out of the car at that point, though.

Q. I see. And, of course, in that time you had no opportunity to uncover the pipes?

A. No, made no attempt to uncover them.

Q. Then, in reality it appears that you made actual inspections on two river crossings—by actual inspections I mean detailed inspections—namely, the inspection of the Missouri River crossing, that is two of those, and one of the Arkansas River crossing. Or was it two on the Arkansas River?

A. One crossing on the Arkansas River.

Q. My statement then is correct?

A. Two on the Missouri and the overhead crossing on the Mississippi.

Q. And you applied your findings on those, one of which was determined by an inspection made after dark, to all the other river crossings of the main lines, is that correct?

A. Well, I based my deduction for depreciation upon all the other main line river crossings upon the observations that I made at the ones which I did inspect.

[fol. 2702] Q. Now, there are a number of river crossings on the Illinois Line number 100 and the Illinois loop line number 200, are there not? A. Yes.

Q. Am I correct in stating that there are two river crossings, namely, the South Sangamon River and the Illinois River?

A. On Line 100, yes, sir.

Q. And, of course, you made no inspections on those rivers? A. That is correct.

Q. Now, the lateral lines have some river crossings, too, have they not? A. Yes, sir.

Q. By the way, did you make any inspections on any of the lateral lines? A. Yes, sir.

Q. Which lateral lines did you inspect? When I use the term "inspect" I mean to make a detailed inspection.

A. 96 lateral line inspections were made.

---

[fol. 2707] P. McDONALD BIDDISON, a witness, having been previously duly sworn, resumed the stand, was examined and testified as follows:

[fol. 2709] Cross-Examination. (Continued).

By Mr. Littman:

Q. Mr. Biddison, at the close of last Friday's session, we were discussing the account in Exhibit 69, Page 1, Line 37, titled, "Transmission Mains."

I believe you stated that there were approximately 157 miles of main lines included within this account, including the loop lines, as distinguished from gathering lines, trunk gathering lines, lateral lines and Local Area lines.

[fol. 2710] I do not recall at the moment whether you stated how many inspections had been made on the main lines thus classified. Could you give us that figure, please?

A. 91.

Q. What I am seeking is the breakdown of the account entitled, "Transmission Mains" shown in Line 37 of Ex-

hibit 69 in the amount of \$46,511,611.72 as between gathering lines, the figure of which I believe you gave us, trunk [fol. 2711] gathering line, main lines including loop lines, lateral lines and Local Area lines.

Can you state what percent condition you found or, stated conversely, what percent of depreciation you deducted for the main lines, including the loop lines?

A. In determining the deduction for depreciation on transmission mains in Exhibit No. 69, I did not break that item down into the detail which you have mentioned.

I weighed out my determinations on the classification which I had used in connection with the determination of reproduction cost and in that determination I had depreciated transmission mains.

I have divided the item of transmission mains, amounting to \$46,511,611.72 into \$1,666,783.92 of Local Area transmission mains and \$44,844,827.80 of other transmission mains. I have depreciated the Local Area transmission mains 49.6363 percent and I have depreciated the \$44,844,827.80 of other transmission mains 4.2682 percent.

The amount by which I have depreciated Local Area mains is \$827,329.86. The amount by which I have depreciated other transmission mains is \$1,914,066.95. The two make a total of \$2,741,396.81.

Trial Examiner: When you said local transmission mains, Mr. Biddison, you are referring to the Local Area production, so-called, in this proceeding?

[fol. 2712] The Witness: The mains in the Local Area around Kansas City, yes, sir.

Trial Examiner: You are not referring then to well lines in the field, that is, in the major fields of Hugoton and Panhandle?

The Witness: No, sir.

Mr. Wheat: Nor are you referring, Mr. Biddison, to so-called lateral lines, are you?

The Witness: I am referring, in that connection to the lines in the local area field around Kansas City as they are



so classified upon the books of Panhandle Eastern Pipe Line Company.

By Mr. Littman:

Q. Then it is the \$44,844,827.80 figure that includes the lateral lines, is it not? A. Yes, sir.

Q. And the so-called trunk gathering line of 110 miles which you spoke of last Friday? A. Yes, sir.

Q. And it also includes some gathering lines, too, does it not? A. Yes, sir, it does.

Q. You are not prepared to give us a breakdown of that \$44,844,000 figure as between the classes that I just named, are you?

[fol. 2713] A. No, sir, I did not make such a breakdown of the miles and do not have the data for such a breakdown. I think I would have to get that out of Kansas City.

Q. What were the figures against which you applied your basic percentages?

A. My basic percentages were applied against reproduction cost new and in weighing the observations out against the general class of the property, I found that the weighted amount to be deducted on this item of \$44,844,827.80 of transmission mains, other than local area, as carried on the books, was 4.2682 percent.

Q. In other words, in securing the percent of depreciation to be deducted of 4.26 percent for transmission mains other than the Local Area transmission mains, you did not ascertain a separate percent for each of the classes of other transmission mains, did you?

A. Not for each of the classes as they are classed in the accounts. I did not weigh my observations out by classes on the book cost of property.

I weighed them out on reproduction cost of property and applied the resultant figure to the total book cost.

[fol. 2714] Trial Examiner: Mr. Biddison, when you made an inspection to determine the existing depreciation in a certain piece of property, would you have a different conclusion as to the existing depreciation if you had made that inspection as a preliminary to a computation of reproduction cost new less depreciation than if you had been

making your inspection without reference to any estimation of reproduction cost new?

The Witness: No, I would have had identically the same figure—

Trial Examiner: (Interposing) Of existing depreciation.

The Witness: (Continuing)—I made a determination of what proportion of value had been lost and what I determined [fol. 2715] was the proportion of value and then I have applied that to at least two different methods that might be considered in determining the value. My proportion would be the same, no matter how the value was obtained and my proportion would be the same, no matter what the cost was, whether it might be considered high or low.

The Witness: In an estimate of reproduction cost new? I determined that, based upon that reproduction cost, the percentage of value to be deducted for depreciation which had occurred in the property on well lines, gathering lines, [fol. 2716] trunk gathering lines, main lines and lateral lines, excluding any Local Area lines of any sort, character or description, was \$1,710,828.99.

That was on property in the amount of \$40,083,188.80 and amounts to 4.2682 percent.

I have, therefore, in Exhibit No. 69, depreciated \$44,844,827.80 of book cost of well lines, gathering lines, trunk gathering lines, main lines and lateral lines by 4.2682 percent or in the amount of \$1,914,966.95.

Now, in addition to that amount of depreciation on the book cost of what, in Exhibit 69, is called "Transmission Mains" and which does include all of the lateral lines, all of the main lines, the trunk gathering line and the greater part of the gathering lines and well lines, I have depreciated \$58,707.45 of gathering lines, so-called, upon the books of Panhandle Eastern Pipe Line Company by \$18,957.70 which is composed of \$14,956.52 of deduction for Local Area lines and \$4,001.18 of other gathering lines.

The proportion in which the Local Area lines have been depreciated is by 80 percent applied to \$18,695.65. The proportion by which the other lines have been depreciated is 10 percent applied to \$40,011.80.

Now, the amount of \$58,707.45 of gathering lines, as now classified in Panhandle Eastern Pipe Line Company's accounts, represents gathering lines which have been classified in accordance with the requirements of the Federal Power Commission.

[fol. 2719] By Mr. Littman:

Q. Have you completed your answer? A. Yes.

Q. Mr. Biddison, did you make any inspections on the loop lines that were installed in 1938?

A. No, sir, I did not. I did inspect some of the 1937 loop lines but I believe none of the 1938 loop lines.

Q. Did you inspect any of the looped lines that were installed in 1939?

A. No, sir, I did not.

Q. Did you inspect any of the loop lines that were installed in 1940?

[fol. 2720] A. No, sir, I did not.

Q. Were there any installed in the first six months of 1941, that you recall?

A. I think there was a little bit of construction work still in progress from last year's program.

Q. You did not examine any of the loop lines that were installed in the first part of 1941? A. No, sir.

Q. Now, those loop lines which I have named which were installed in the years 1938, 1939 and 1940, and which you did not inspect, constitute a rather substantial part of the present transmission mains, do they not?

A. Yes, sir.

Q. Don't take the time to look it up now, but can you tell me approximately how many miles of loop lines were installed in total?

A. I would have to look it up to give you anything within reason.

Q. Well, do you have a copy of Exhibit 15, Mr. Burnham's map of the system?

A. No, I do not have a copy of it.

Q. I believe Mr. Burnham's map, Exhibit No. 15, shows in light green color the loop lines that were installed in 1939 and 1940.

A. I have some figures here that indicate that the 1939 [fol. 2721] and 1940 program was about 133 miles.

Q. Did you make any deduction whatever for depreciation on any of the loop lines installed in 1938, 1939, 1940 or 1941?

The Witness: On the Liberal loop in 1937 construction, I deducted one percent; on the 1939-40 construction, I deducted nothing.

On the Greensburg loop for the 1937 construction, I deducted one percent; for the 1939-40 construction, I deducted nothing.

On the Haven loop for the 1937 construction, I deducted one percent; for the 1939-40 construction, I deducted nothing.

For the Olpe 1937 construction, I deducted two percent; for the 1939-40 construction, I deducted nothing.

For the Louisburg loop for the 1937 construction, I deducted one percent; for the 1939-40 construction, I deducted nothing.

For the Houstonia loop for the 1937 construction, I [fol. 2722] deducted two percent; for the 1939-40 construction, I deducted nothing.

For the Centralia loop for the 1937 construction, I deducted one percent; for the 1939-40 construction, I deducted nothing.

For the Pleasant Hill loop for the 1937 construction, I deducted one percent; for the 1939-40 construction, I deducted nothing.

So, in general, I deducted one to two percent on 1937 construction and nothing on the later construction.

In two sections, however, I deducted two percent on 1937 construction based upon the fact that they were the sections in which depreciation appeared to have taken place the most rapidly on the older construction.

By Mr. Littman:

Q. In other words, to summarize, you made no inspections on any of the looped lines constructed subsequent to 1937?

A. That is correct.

Q. And you placed that all in 100 percent condition?

A. Yes, sir.

Q. Notwithstanding the fact that some of them were two and one-half years old as of June 30, 1941?

A. That is correct—not 2½ years, 1½ years.

Q. Well, it would be closer to two, wouldn't it?

A. No, it would be closer to 1½. They were completed along at the close of the year.

[fol. 2724] Q. We would appreciate your securing it at your early convenience.

Now, the main line in the Local Area to which you alluded a few minutes ago were not personally inspected by you at all, were they?

A. That is correct.

Q. That is the Local Area main lines. I believe you answered a similar question with respect to Local Area gathering lines?

A. Yes, sir, and a similar situation exists with regard to Local Area well lines. The same situation exists with regard to all lines classed as Local Area lines.

Q. Am I correct in stating that you used a flat 25 percent deduction for depreciation on the main lines in the Local Area? I believe you testified to that at transcript Page 1193.

The Witness: Will you read me that question?

[fol. 2725] (Whereupon, the pending question, as recorded, was read by the reporter.)

The Witness: No, that is not correct. In connection with Exhibit 69, I just explained here a short time ago what I did with respect to the lines in the Local Areas.

Mr. Wheat: I think the deduction was around 80 percent, was it not, Mr. Biddison?

The Witness: The deduction was 80 percent upon those lines which, in Exhibit 69, are called gathering lines and the deduction was 49.6363 percent for the other Local Area lines included in the group of transmission mains on Exhibit 69.

Now, I think likely that the figure you are referring to was used with regard to a certain group of those transmission mains as classified in my reproduction estimate.

By Mr. Littman:

Q. Well, whatever your deduction was for depreciation on the main lines in the Local Area, it was not based upon inspection, is that correct?

[fol. 2726] A. That is correct. It was not based upon inspection because I made no inspection.

Q. What was it based on?

A. It was based on the consideration of the field conditions in that field.

Q. What do you mean by "field conditions?"

A. That the lives of lines are short because the lives of wells are short. Therefore, there is considerable shifting of lines in that field and considerable obsolescence in pipe lines in the field.

Q. Now, is it a proper method to depreciate a main line on the basis of the rate of depletion of gas in the fields from which it takes gas? Is that a proper method?

A. If a field from which a pipe line takes gas is so depleted that the installation of that pipe line would not be justified, then that pipe line has lost value through obsolescence and, in any estimate of its value, that obsolescence should be given full force and effect.

If the obsolescence has not occurred, it should not be given any effect.

Q. In other words, you begin to switch from the observation method to this so-called depletion method or whatever you want to call it, the minute the gas supply begins to run low, is that correct?

A. No, sir, I do not switch.

[fol. 2727] Q. When do you make the change?

A. I have got a consistent policy in that regard and I try to give effect to the factors that produce depreciation



and when I believe obsolescence has produced depreciation, I give it effect and when I do not think obsolescence has produced depreciation, I do not give it effect.

Q. Well, in your opinion, will the main transmission lines of Panhandle Eastern reach this stage when you will begin to give effect to the obsolescence in the lines?

A. Sure.

Q. Approximately when?

A. I have not estimated the date and I do not read the crystal.

Q. How far depleted, would you say, that the gas field would have to be before you begin to change your method from that of observation to the one which you just described?

A. They would have to be depleted to the extent of when the laying of the lines would not be feasible economic venture on account of the life of the supply.

Q. That is similar to the method employed by you in depreciating wells, is it not?

A. That is correct.

Q. Now, inasmuch as pipe of all kinds which make up the various types of lines represents, by far, the largest [fol. 2728] amount of the property owned by Panhandle Eastern, I would like to examine you a little further with respect to the method used by you in arriving at the observed percents which you deducted for depreciation.

I believe you described that numerous test holes were dug and that four feet of the pipe was uncovered, is that correct?

A. Six feet of pipe was uncovered by the test hole and out of the six feet, four feet was cleaned of its protective coating so that four feet of pipe could be inspected and two feet of the protective coating could be inspected.

Q. And then you made notations with respect to what you saw at each particular point, both as to the coating and as to the pipe itself, did you not?

A. Yes, sir.

Q. Now, what were you particularly interested in with respect to the pipe? Were you looking for general corrosion?

A. I was looking for any kind of corrosion.

Q. You had them in about four or five different classes, did you not? Will you briefly enumerate those again for us so that we can discuss them in connection with this point? Will you proceed with your answer, Mr. Biddison?

A. I made notations as to whether there was no rust, whether there was definite surface rust, whether there was shallow metal attack and if there were measurable pits, [fol. 2729] I recorded the depths of those pits, the deepest pit in each foot of the continuous four feet of pipe that was exposed.

Q. How did you translate those data to percents? If you wish, you might take a typical inspection sheet and cite it as an example.

A. I did not translate any particular inspection sheet to a percentage but I did draw alignment charts to represent sections of this pipe line so that the conditions that had been found, both in my inspection and in the routine reports of inspections by Panhandle Eastern's employees, could be utilized.

Taking the section from Liberal station to Greensburg station—

Q. (Interposing) Which page of your working paper notes are you referring to now?

A. I am referring to a set of charts, a copy of which has been furnished to the engineers of the Federal Power Commission and I am referring to Page 3 of that set of charts.

Q. Thank you.

A. The survey station on this pipe line for Liberal station is Station 5700 plus 00.

Mr. Wheat: How was that now?

The Witness: Station 5700 plus 00 and the station number for Greensburg station is Station 10,348, plus 80. Now, between Liberal station and Greensburg station on Line C-100 I made five inspections on Line C-100.

[fol. 2731] Q. Just before the recess, Mr. Biddison, you were explaining the method used by you to determine the amount to be deducted for depreciation and you were giv-

ing us that method with respect to that portion of the main transmission line extending from Liberal Station to Greensburg Station.

Will you please proceed with your explanation?

A. On the alignment chart which we have been referring to, that is page 3 of the set of charts, I have indicated by a letter "a", a lower case "a", that at the point where this "a" is located I made an inspection and found no rust.

Where a small letter "b" is located, it indicates that upon that line at that location I made an inspection and found definite surface attack, and where a "c" appears it indicates that at that point I made an inspection and found a shallow metal attack.

Where a solid vertical line appears upon that line on the chart it indicates that I made an inspection and found definite measurable pitting and the height of that vertical line indicates the depth of the pitting in mills, that is, in thousandths of an inch.

A similar code is used on this chart to indicate the results of inspection by employees of Panhandle Eastern Pipe Line Company. Those inspections are indicated by capital letters and the depths of pitting, where pitting was found to exist, is indicated by a broken vertical line.

[fol. 2732] On this chart at Station approximately 6010 plus 00, there appears a capital "A" indicating that the Company's inspection at that point disclosed no rust. Between that point and Liberal Station I also had an inspection with the same result, that is, no rust showing. But at Station approximately 6040 plus 00 my inspection showed pitting to the extent of about 30 mills maximum.

Q. Just a minute. Is that the average of the deepest pits on each of the four foot sections?

A. No, that is the deepest pit.

Q. In the entire exposed portion of the pipe at that point?

A. Yes, sir.

Q. Pardon the interruption. Go right ahead.

A. I have, therefore, classified this section of line from Liberal Station up to the point at which the pitting was observed, as having no rust up to a point half way between the eastward observation of no rust and the first observation of pitting. That is, from Station 5700+00 to station 6,400+00.

Engineers for the Federal Power Commission, I believe, have photostatic copies of the work paper on which I tabulated such a classification.

Q. What percent condition did you put that portion of this line in which extends from Liberal Station to the mid-[fol. 2733] point that you describe, between the point where no rust was found and the point where pitting was found?

A. 99 per cent.

Q. What is the distance for which you found a 99 per cent condition?

A. Well, in this particular stretch that distance is 70,000 feet.

Q. That is approximately 14 miles, isn't it?

A. Yes, sir.

Q. And how many inspection points did you personally view over that stretch?

A. Two—no, over that stretch of 70,000 feet, one.

Q. And then you had the inspections of the Company at another point?

A. Yes, sir.

Q. You were not there when the Company representatives inspected that point, were you?

A. No, sir.

Q. Will you please proceed with your explanation?

A. From the location of the first observation where pitting was discovered, going eastward, that is at Station approximately 6840+00.

Q. Will you please proceed with your explanation?

A. From the location of the first observation where pitting was discovered going eastward, that is at station [fol. 2734] approximately 6840+00, the next eastward observation was at station approximately 6875, and from a point roughly half way between those last two observations or station 6850+00 to midway to the next observa-

tion, that is, to station about 7200, I have classed that as no rust.

Q. What was that mid point that you just mentioned?

A. From station 6850 to station 7200.

Q. That is the mid point between what two stations?

A. Well, it is approximately the mid point between station 6840 and station 6870 or 6875.

Q. How did you establish the 7200 as the mid point?

A. Well, I think that was done just by eye to make a guess at a mid point there. It looks like I might have missed it a little bit.

Q. It looks like it is not anywhere near the mid point to me, Mr. Biddison. Will you make the determination of the mid point now?

A. The mid point should be approximately 7037.

Q. How many miles were you off on your original mid point, approximately?

A. About three.

Q. You were in error then three miles on that inspection? A. Yes.

Q. Will you proceed with your explanation, Mr. Biddison?

A. From station 6400 to station 6850 I have shown that [fol. 2735] the latter point for the latter stretch which you described. Would you mind doing that for us?

A. In that stretch where no rust was shown, I have assigned a condition of 99 percent. If definite surface rust was shown, I have assigned a condition of 98 percent. If the conditions shown were that of shallow metal attacks I have assigned a condition of 97 percent, and for those sections in which there was pitting, I have assigned a condition of 95 percent.

Q. Did you assign that 95 percent where there are pits everywhere over the system?

A. Yes, sir.

Q. Without any reference to the depth of the pits?

A. That is correct, because the depth of the pits is generally pretty small, and I think that a 5 percent allowance on all these stretches is ample to cover the amount at close to the maximum depth of pitting.

Q. You found some pits that were half way through the pipe, didn't you, Mr. Biddison, at some points?

A. I think we may have on some lateral lines. We are talking now about main lines.

Q. Yes, we are talking about main lines. Didn't you use the same general method on the lateral lines, however? A. No.

Q. Let's confine ourselves at present to the main lines.

[fol. 2737] I note that you have some pits that were 100 mills in depth, do you not, between Liberal Station and Greensburg Station on the main line?

A. At two points, yes, sir.

Q. You used 95 percent condition at those two points, did you not?

A. Yes; and I also used 95 percent condition at points where the maximum pitting was 20 mills, 25 mills and 30 mills.

Q. And you used 95 percent condition on other parts of this line, inspection points, where the depth of the pitting was in excess of 100 mills, did you not?

A. No, I didn't specifically do that. I used 95 percent on those sections that were pitted.

Q. Without consideration—

A. (Interposing) Without segregating the shallow pit depth sections from the maximum pit depth sections. I used 5 percent as an average.

Q. How did you arrive at that 95 percent? In other words, how did you arrive at a deduction of 5 percent for depreciation at points where you saw what you call measurable pits?

A. That is my judgment by which the pipe has lost value on the average. It is not a result of a mathematical calculation or algebraic equation.

Q. In other words, you have no working papers to show any basic figures from which this 5 percent depreciation was reached?

[fol. 2738] A. That is my basic figure.

Q. And the same is true, is it not, of your 97 percent which you recorded where you saw a shallow metal attack?

A. That is true, and it is also true of my 98 percent when I found definite surface rust, and also true of my 99 percent when I found no rust.



I simply allowed that even in spite of the fact that you couldn't find anything there, there probably was some little deterioration.

In general those percents are arrived at by making allowance for the fact that there probably is some deterioration that you have not been able to see, just on the law of averages.

Q. You mean it is there but you might have possibly missed seeing it?

A. I mean that it is normal expectancy that there would be something there on a line of that age in those stretches, even if you didn't see it at the particular spot where you made your inspection.

Q. Then, as I understand your method you considered the following factors in arriving at the percents: first, whether or not there was rust; second, the appearance of definite surface rust; third, the shallow metal attack; and fourth, the presence or absence of pits. Is that correct?

A. Measurable pits.

Q. Measurable pits?

[fol. 2739] A. Yes, sir.

Q. My summary is generally correct, is it not?

A. That is correct.

Q. And nothing else?

A. That is right, that is, as to pipe alone. These figures do not relate to the condition of the protective coating.

Q. They relate to the condition of all pipe observed by you?

A. Of all pipe in the main lines.

Q. What do you mean by measurable pit? What is the difference between measurable pit and one that is not a measurable pit?

A. None of this pipe is absolutely smooth, and due to that slight roughness you quite often find a point at which you can detect that there has been some action upon the steel itself, but on account of the pipe roughness you have no way in which you can measure it.

That is generally true when it is less, say, than five mills.

Sometimes you can detect a brightening of the surface that looks a good deal like the result you would obtain by

etching with an acid, that is so slight that you can detect the discoloration of the surface, or you may be able to feel it with your thumb nail, but it is too small to measure with ordinary instruments used for that purpose.

Q. Wouldn't that be called shallow metal attack?

[fol. 2740] A. Yes, sir.

Q. In other words, you then took it out of the category of pitting and put it in the category of shallow metal attack, where the pitting was approximately under two mills?

A. Well, if it were such that you couldn't with any certainty measure it with a measuring device such as we were using, the common device used for that purpose, I called it shallow attack.

With that measuring device you can measure down to five mills and anything under that you can't be sure whether you are measuring pipe roughness or just fooling yourself as to whether or not you are measuring at all.

Q. Did you use a different method than that which you have described, in determining the percent of depreciation to be deducted for the "trunk gathering line", to use your term, in describing that portion of the line running from Windmill Junction to Liberal Station?

A. No, sir, I used the same method.

Q. Now, how about the gathering lines? Did you use the same method for those? A. No, sir, I did not.

Q. Will you describe the method you used to determine the percent of depreciation for those lines? Let me ask you this while you are searching through your papers:

Whether you used the same method on field lines and [fol. 2741] gathering lines.

A. No, sir, I used that method only on the main lines.

Q. But my question is: Did you use a different method on both gathering lines and well lines?

A. Yes, I used a different method. I did not use the same method.

Q. But it was the same method for the latter two?

A. In general, a determination on gathering lines was made for gathering lines and the results then used for well lines.

Q. All right. Now, will you please explain the method used for gathering lines and the well lines?

A. The gathering lines in the Texas field, using both my own observations and those shown in the company's reports, I had twelve observations at which no rust were shown, I had four at which there was definite surface rust, and I had six at which there was shallow metal attack, and I had five at which there was pitting.

Now, assigning to the condition of no rust a value of 98 percent, to the condition where there was surface rust a value of 97 percent, to the condition where there was shallow metal attack a value of 95 per cent, and to the condition where there was actual pitting a value of 90, I arrive at a weighted figure of 95.77 for pipe in those lines, and I used a condition of 95 percent even.

Q. Now, Mr. Biddison, I notice you have changed your [fol. 2742] percents for similarly described conditions.

A. Now, on the field lines or, rather, on the gathering lines, you ascribe a percentage of 98 where there was no rust, whereas on the main lines you used a percentage of 99 where there was no rust. Why the difference?

A. It was just simply that in my judgment there is more apt to be more deterioration in those lines in the field under those conditions than on the main lines.

Q. What would be the cause for that?

A. Well, the cause for that would be that the lines in the field do not have as good a protective coating, did not have originally, and have not held up as well.

I am simply allowing in that estimate for the conditions that I can foresee that would affect those values.

Q. What kind of coating did the gathering lines have?

A. A great many of those are coated with a cold paint, whereas the main lines are, in general, coated with a hot application.

Q. What is the name of that paint?

A. Ace paint, I believe it is.

Q. Wasn't that paint, namely, Ace paint, used on the main lines?

A. No, that is very largely a bitumastic coating applied hot.

Q. Now, when you found pitting on the gathering lines, [fol. 2743] you put those lines in 90 percent condition, whereas when you found pitting on the main lines, you put them in 95 percent condition. Why the difference?

A. Because I think those conditions represent more depreciation on those lines than they do on the main lines.

Q. Those same conditions? A. Yes, sir.

Q. Can you give us any further reason than the mere repetition of your conclusion? What is the basis for your conclusion?

A. I think that in the field lines that because of the general condition of the protective coating, there is very likely an amount of depreciation on the pipe itself by virtue of attack on the pipe itself, than is represented by the observations, and I simply allowed for it.

Q. You didn't see any more depreciation at a point on a field line where you used a 90 percent condition, than you did at a point on a main line to which you ascribed a 95 percent condition, did you?

A. No, but I allowed for that, which I think represents the facts.

Q. The unobserved facts?

A. Yes, sir. It was my opinion that they had suffered that much depreciation and so I set it down at those figures.

[fol. 2744] Q. Even though you didn't see it?

A. Yes, sir.

Q. You didn't make any allowance for any depreciation which you did not see on the main lines, did you?

A. I certainly did. I took off one percent on those main lines where there wasn't a sign of rust, just for that very reason.

Q. And you took off two percent on the gathering lines where the same condition exists?

A. That is right.

Q. Are these percentages related to 100 percent? By that, I mean when you find a field line in 90 condition that means it is 90 percent of 100 percent, does it not?

A. That is what percentage means.

Q. And 100 percent means what?

A. It means perfect condition, that it has suffered no loss in value.

Q. So far as you can see.

A. It means that it has suffered no loss in value if it is 100 percent condition.

Q. So far as you can see?

A. See or not see it. If it is 100 percent condition it has suffered no loss in value.

Q. Now, 90 percent condition is related, is it not, to a zero point, or is it? A. Yes.

[fol. 2745] Q. When is zero point reached?

A. When all value is lost.

Q. And when does that come about?

A. That comes about when you can't use the article for the purpose for which it is intended.

Q. You mean, it is the point at which the pipe line will not carry gas?

A. No longer serve to carry gas. That is correct.

Q. And this pipe may possibly be removed, may it not, and retired from service, before that point is reached?

A. Yes.

Q. Then, your zero percent condition has no relation whatever to the abandonment of the pipe by reason of the alleged exhaustion of the gas supply, before it has reached the physical stage at which it will carry no gas?

A. Certainly not.

Q. How much pitting is necessary to put a pipe in zero percent condition under your theory?

A. It depends upon the pattern of the pitting.

Q. Will you give us an example?

A. If there be scattered individual pits, that is, pits not connected with each other, and which perforate the pipe walls to the extent that it is more economical to remove the pipe than to patch up the pits, then I think that pipe has reached zero value.

[fol. 2746] If, on the other hand, the corrosion pattern is one of scaling off on comparatively large areas, the pipe may reach zero value when this erosion has penetrated less than half way through the pipe walls because under those conditions the pipe walls may be so weakened that the pipe would no longer withstand the stresses to which it was intended to be put.

So, as I say, it depends upon the pattern of the attack upon the pipe how far that must go before all value is destroyed.

Q. What zero point did you have in mind?

A. Any zero point that brings the pipe into condition where it is of zero value, that is, not suitable for use any longer for such gas transmission, no matter what brought it about.

Q. Now, if you found at an inspection point that the deepest pit was as much as 75 percent through the pipe wall, what percent condition would you put that pipe in?

A. That would depend entirely upon the pattern of that pitting as to whether or not there were many other pits in that vicinity, whether this was a pit of small diameter or a large patch.

Q. You can conceive of a situation then, I take it, under those circumstances, where a pit at a point is as much as three-quarters of the way through a pipe wall, and it could still be in 90 percent condition?

A. Yes, I can conceive of where you could have a hole [fol. 2747] clear through it and still be in 90 percent condition if it is one of those pits that you could go in there and quite readily patch up.

On the other hand, I can conceive also of a pitting pattern, and I have seen many of them, that have not gone halfway through the pipe walls and yet the pipe was in substantially zero condition.

Q. You didn't take into account, did you, Mr. Biddison, the pattern of the pitting in the method you described for either the main lines or the gathering lines?

A. Yes, sir.

Q. I thought you said, wherever you found pitting on the field lines, you used 90 percent and on the main lines you used 95 percent. Is that correct? A. That is right.

Q. Will the pattern that you speak of ever affect those percentages?

A. They were generally the one pattern, that is, isolated, scattered pits. We did not have any of that pattern where such areas were eroded away so as to have any measurable effect on pipe wall strength. That would have been a different proposition, had we seen those.

Trial Examiner: We will recess until 2 o'clock.



(Whereupon, at 12:35 p. m. the hearing in the above-entitled matter was recessed until 2:00 o'clock p. m. of the same day.)

[fol. 2748] By Mr. Littman:

Q. Mr. Biddison, you have made a great many pipe inspections on natural gas lines, have you not? A. Yes, sir.

Q. Throughout your experience? A. Yes, sir.

Q. Have you, at any time, ever seen such pipe at any time at such inspection point which was in zero percent condition? A. Yes.

Q. Will you describe such pipe at one or two of those inspection points, what did it look like?

A. I cannot sit down and describe today a particular piece of pipe. I can only say, in general, that it looked like it was not worth anything, that it ought to be out and not in service.

Q. Can't you be a little more specific than that? Don't you have some recollection of the appearance of the pipe?

[fol. 2749] A. Well, I have seen some pipe in the last sixty days that was in zero percent condition.

Q. At an inspection point?

A. Yes.

Q. Then that is recent enough for you to have a fairly vivid recollection of the situation. Can't you describe that particular pipe?

A. Well, I have seen more than one. I do not know whether I can pick out a particular one or not but I have seen pipe that was down close to that percent condition in the last sixty days.

That pipe was, generally, heavily pitted and had a number of leak clamps on it.

Q. About how many leak clamps?

A. I do not know.

Q. What was the diameter of the pipe that you are speaking of, approximately?

A. I think one was 16 and another 18 that I found in zero percent condition. That is my recollection.

Q. And what was the approximate thickness of that pipe?

A. Well, I think the 16-inch was either a quarter or 5/16. I am not certain which; and the 18-inch, I believe

that was 5/16, that is my recollection of about what the thickness was of that pipe.

Q. How much of that pipe was uncovered at the inspection point?

[fol. 2750] A. On the 16-inch, we had six feet uncovered. On the 18-inch, at one inspection hole, we had six feet uncovered and at points close to there, there were half joints uncovered that could be seen.

Q. Was the pipe leaking gas at the time?

A. No.

Q. How many leak clamps were observed in the six-foot section that was uncovered on the one?

A. I do not remember.

Q. Was there more than one?

A. Yes.

Q. Was it pretty heavily pitted?

A. Yes, very badly pitted.

Q. But there were not any holes other than those which might have been under the leak clamp?

A. That is right. There were some almost through.

Q. Do you know what kind of soil was observed at that point?

A. No, I do not. I do recall that, on the 16-inch pipe, it was in a swale. There was a low spot where the drainage was comparatively poor but I do not remember what the soil characteristics were.

I feel sure that it was not in the black waxy belt but just what the soil was I do not recall.

[fol. 2751] Q. Have you ever seen pipe in a natural gas system at an inspection point which was in zero percent condition and which did not have any leak clamps on it?

A. Yes.

Q. What caused you to put that pipe in zero percent condition?

A. Because the corrosion had been so heavy the pipe walls were so thin that I thought it was unsafe for use and ought to be discarded.

Q. How thin? A. I do not remember.

Q. Well, it was quite thin, practically gone, wasn't it?

A. Well, thin enough that I thought it was unsafe for use. I do not know how thin that was now because I have nothing before me about it. That is just one of the things

that have occurred in a long experience, occurred many times.

Q. Now, I believe you stated that you used a different method to determine the depreciation to be deducted for the lateral lines than that which was used for the main lines and the field lines and well lines.

Will you describe the method used on the lateral lines?

A. For the lateral lines in Kansas, I have taken the reports on pitting and paint condition of Panhandle Eastern Pipe Line Company and I have classified them as to [fol. 2752] whether there was no rust, whether there was definite surface rust or shallow metal attack or pitting.

On those laterals, 9 observations out of 14 showed no rust; 5 out of 14 showed definite surface rust. Weighing those observations produces 97 percent. I have, therefore, deducted 3 percent from those laterals.

Q. Have you completed your answer, Mr. Biddison?

A. Yes.

Q. Do I understand that you personally made no inspections on any of the lateral lines in Kansas?

A. That is correct.

Q. You utilized certain inspections made by company employees?

A. Yes, sir, on which there are routine inspection reports.

Q. Didn't they find any pits anywhere on this line?

A. There are none reported on the observations in Kansas.

Q. Does that mean that there were not any or does that mean that they did not record any, whether they saw them or not?

A. That means that none showed up at the points where they made the inspection.

Q. Mr. Biddison, do you know anything about the lateral line which runs from the main line in Kansas for a distance of approximately 32 miles down to Mildred, Kansas, called the Mildred lateral?

A. I know of such a line, yes.

[fol. 2753] Q. You have never seen it?

A. I have seen a little bit of pipe out of it.

Q. Isn't it a fact that that lateral is one which was the subject of a proceeding before the Federal Power Commission in an abandonment proceeding?

A. I so understand.

Q. Do you know what is being done with that line at present?

A. I understand it is being taken up and relayed some place in Illinois.

Q. Do you know how much money is being spent by Panhandle Eastern to recondition that pipe?

A. I do not think any is being spent to recondition it. I understand the line is being taken up and relayed.

Q. It is your understanding that that pipe is not going to be reconditioned prior to relaying?

A. I understand that it will be cleaned up prior to relaying but that is not what is generally referred to as a reconditioning job.

It is being put in shape for relaying. There is a little distinction there between reconditioning for use in its location and reconditioning for use in another location. It is not being reconditioned because it was in bad shape at all. It is simply being put in the best condition it can be put in for the new location.

[fol. 2754] Q. Do you know whether or not Panhandle Eastern expects to weld the pits on that pipe?

A. No, I do not know whether there are any on it or not.

Q. If Mr. Burnham, who is the company's Chief Engineer, testified that the Mildred lateral line was in 10 percent condition—I beg your pardon, in 90 percent condition or 10 percent depreciated as he did in a proceeding before this Commission in which the company requested the abandonment of that line, would you say that he was in error?

A. I do not think he so testified. That is not my understanding but I do not think that I am in a position to argue with him about a matter that is his own judgment.

Q. You do not know what he testified to in that regard, do you? A. I do not, I was not there.

Q. Obviously, if he testified that this line was in 90 percent condition and you testified that it is in 95, both of you could not be right, could you?

A. I have not testified it is in 95 percent condition.

Mr. Wheat: Mr. Littman, you said 10 percent and prior you said 90 percent.

Mr. Littman: I corrected that to 90 percent condition or 10 percent depreciation. I corrected that.

Mr. Wheat: I see.

By Mr. Littman:

[fol. 2755] Q. Now, that is the method by which you determine the percent condition of the lateral lines in Kansas. Did you inspect any of the lateral lines in Missouri?

A. Yes.

Q. Before proceeding to the question of the lateral lines in Missouri, did I understand you to say that you did not put the lateral line, called the Mildred lateral, in Kansas, in 95 percent condition?

A. I did not assign a specific condition to any single lateral line in the State of Kansas. I deducted 5 percent of the value from the lateral lines in Kansas as a whole group.

Q. Over what period of time were these inspections made on the lateral lines in Kansas to which you alluded a few minutes ago?

A. They are the inspection reports for the year 1940 and '41, mostly in '41 is my recollection now.

Q. Assuming that the Mildred lateral line is to be taken up from its location running from the main line down to Mildred, Kansas, and removed to Illinois, wouldn't that pipe be considered by you to have been fully depreciated?

A. I do not know what you mean by "fully depreciated." You mean depreciated down to zero?

Q. Yes, depreciated down to zero and retired from the service of Panhandle Eastern Pipe Line Company.

A. Certainly not. We depreciated it down to not less [fol. 2756] than recovery value at that time. If it had been known that it were going to be moved—

Q. (Interposing) What about the labor cost of installing that line? What happens to that?

A. It is lost when you remove it.

Q. It certainly is in zero percent condition, is it not, under those circumstances?

A. If it is known, if that fact be known. It was not known at the time I made the inspection.

Q. Well, when did you make the inspection? You did not make any inspection on this line, Mr. Biddison, did you?

A. I made the inspection on the system and that is the inspection I am talking about. I previously stated I did not inspect that particular line.

Q. Well, assuming the fact is that this line, this Mildred lateral, is now being taken up and sent over into Illinois for use in Illinois, what would you say with respect to the labor cost of installing that line in Kansas? Is it or is it not in zero percent condition?

A. It is gone now, certainly.

Q. Is it in zero percent condition? A. Yes.

Q. If you had known that situation when you made this inspection, would you have put that labor cost of installation in zero percent condition?

[fol. 2757] A. I would have depreciated the whole line down to its recovery value. That is exactly what I would have done.

Q. Now, we were discussing the Missouri lateral lines and I believe you stated you made some inspections on those laterals. Will you give us the number, please?

A. I made one.

Q. There are approximately 266 miles of laterals in Missouri, are there not, as shown in Schedule 11 of Exhibit 17?

A. If I can refer to Exhibit 17, maybe I can answer your question. This schedule shows there to be 266.77 miles of lateral lines in Missouri.

Q. Well, did you base your percent condition of the Missouri lateral lines on that one inspection that you made? A. I did not.

Q. What did you base it on?

A. I based it upon the routine inspection reports made by Panhandle Eastern Pipe Line Company's employees which, on the Tipton lateral, showed pitting at three locations and, at one location, showed shallow metal attack and which, on the Fayetteville lateral, one report showed pitting to the extent of 15 mills and, on the Jefferson City lateral, showed no rust at four locations and showed definite surface rust at one location.



Q. One man's opinion of what is definite surface rust and what is not might or might not coincide, is that correct?

[fol. 2758] Mr. Wheat: Coincide with what?

Mr. Littman: The two men's opinion.

Mr. Wheat: You said one man's opinion might not coincide—

Mr. Littman: (Interposing) Coincide with the opinion of another. I am sorry I did not complete the question.

The Witness: Well, I suppose there would be times when there might be a little divergence of opinion on that, yes.

By Mr. Littman:

Q. And the same is true of the other factors that you have named here from time to time, which you ordinarily take into account in determining your percent of depreciation, is that correct?

A. I suppose there is room for a little bit of difference of opinion but, among competent observers, that difference would very seldom arise.

Q. Who were the men that made these inspections on behalf of the Company?

A. The Division Superintendents in each section.

Q. Did they receive their instructions from you with respect to the observations at these inspection points?

A. They did not.

Q. But it was upon these inspection points, with one exception, that you relied in determining your percent condition for the lateral lines in Missouri, is that correct?

A. That is correct.

[fol. 2759] Q. Are there any lateral lines in Missouri that nobody inspected?

A. Yes.

Q. Will you name those lateral lines in Missouri upon which you had no inspection data?

A. If I have access to a map.

Q. I believe Exhibit 15 is pinned on the wall and I believe that it shows the lateral lines.

A. There is a small tap to Centerview, a short tap to Houstonia and a short tap to Pilot Grove.

Q. Could you give us the approximate distances from the legend on the map? We won't hold you to exact distances, Mr. Biddison, but I would like to have an idea about what you mean by "A short tap."

A. There is no scale shown on this map. I have to make a pretty long guess at this but those taps—

Mr. Wheat: (Interposing) Do you want to change that answer, Mr. Biddison, as far as the scale on the map is concerned?

The Witness: (Continuing) Those taps that I referred to are pretty short. I have found a scale on the map and the Centerview tap shows it to be about  $2\frac{1}{2}$  miles; the Houstonia tap about 4 miles; the New Franklin tap about 2 miles; the Columbia tap about 10 or 11 miles; the Moberly tap about 20 miles with a branch off of it of about 5 miles.

The Centralia tap is about 4 miles and the Fulton tap [fol. 2760] about 20 miles; Boonville tap about 4 miles; The Wellsville tap is about 15 miles. There are two or three other small sized taps of a couple of miles or so, the Bowling Green tap is about 5 miles.

By Mr. Littman:

Q. How about the Windsor tap running south from a point just west of Houstonia station? Were any inspections made on that lateral?

A. No, sir.

Q. How long is that lateral, approximately?

A. About 10 miles.

Q. Now, Mr. Biddison, how did you arrive at the percent of depreciation for these lateral lines which you just named and on which neither you nor the company made any observations?

A. On the Tipton lateral, it is my estimate that there has been a loss of 30 percent in value. Therefore, I deducted from the value of the Tipton lateral 30 percent. On the—

Q. (Interposing) Pardon me, would you mind explaining how you arrived at that 30 percent before proceeding to the next lateral?

A. That is my judgment as to the amount of value that has been lost by virtue of the fact that, in four of the lo-

cations, there has been considerable pitting and, at one location, it is a shallow metal attack.

Q. Now, that Tipton lateral is one that you had some [fol. 2761] inspection data on that was made by the company?

A. Yes, sir.

Q. I see. Proceed with your explanation, Mr. Biddison.

A. On the observations on the Fayette lateral and Jefferson City lateral, they being the company's inspections, since there was pitting only at one location out of 7 inspections, I estimate that there has been a loss in value of 5 percent on the pipe and I have, therefore, deducted 5 percent from the value for all the pipe and equipment in the lateral lines in the State of Missouri exclusive of the Tipton lateral.

By Mr. Wittman:

Q. You did not accord any weight to the observations on the Tipton lateral then, did you?

A. Yes, I applied the observations on the Tipton lateral to the Tipton lateral.

Q. That lateral was found to be 30 percent depreciated, was it not?

A. That is my estimate of it, yes, sir.

Q. The other two laterals which you named, namely, Fayette and Jefferson City, on those you found approximately [fol. 2762] mately 5 percent depreciation, did you not?

A. I did not find that from the observations but I used 5 percent for the Fayette lateral, the Jefferson City lateral and the other laterals in the State of Missouri.

Q. Why?

A. To allow for the loss in value which had occurred on them.

Q. How did you know 5 percent loss had occurred on them, Mr. Biddison?

A. That is my estimate on what had occurred, based on the information which I have recited.

Q. Let me get at it this way: There were observations made by the company representatives of the Tipton lateral, is that correct?

A. Yes, sir.

Q. And were there observations made on the Fayette lateral?

A. Yes.

Q. And were there observations made on the Jefferson lateral?

A. Yes.

Q. And those three laterals were the only three upon which any observations had been made, is that correct?

A. I think that is right, yes, sir. Those are the only ones I find of record.

[fol. 2763] Q. Now, the Tipton lateral was found to be 30 percent depreciated, is that correct?

A. That is my estimate of the depreciation that has occurred in its based upon the information.

Q. At the inspection points on the Tipton lateral?

A. Yes, sir.

Q. And the percent of depreciation ascribed by you to the Fayette and Jefferson laterals was 5 percent, is that correct?

A. Based upon the observations there, I estimate there has been 5 percent depreciation occur in the other lateral lines in the State of Missouri, exclusive of the Tipton lateral. These other lateral lines include the Fayette lateral, the Jefferson City lateral, and the conclusion I have reached is based upon the inspections on the Fayette lateral and the Jefferson City lateral.

Q. Without giving any weight or effect to the inspections made on the Tipton lateral, is that correct?

A. That is correct.

Q. Now, will you tell me, Mr. Biddison, how you can arrive at a conclusion that a lateral, such as the Moberly lateral and its stub totaling 25 miles in length was in 95 percent condition without having made any observations on that lateral and without having before you anybody else's observations on that lateral?

[fol. 2764] A. I have not said that that lateral was in 95 percent condition nor that it had suffered 5 percent depreciation. I have said that, based upon the data which is available to me on the Fayette lateral and the Jefferson City lateral, that I estimate there has been a loss in value of 5 percent on the lateral lines in the State of Missouri, exclusive of the Tipton lateral.

Q. Well now, how much is being deducted from book cost in your Exhibit 69 for the Moberly lateral?

A. I have not made any segregation of the Moberly lateral in that respect.

Q. Well, it certainly would be 5 percent, wouldn't it? It would have to be, wouldn't it?

A. I have not made any deduction on the Moberly lateral, as such. I have made a deduction on a group of laterals as an over-all figure for the group.

Q. None of which exceeds 5 percent depreciation?

A. It is 5 percent on the group. I have not segregated the group and applied individual figures to them.

Q. The group that you speak of is the group on which you did not ever make any observations and is the group on which neither the company's representatives nor anybody else, so far as you know, ever made any observations, is that correct?

The Witness: Will you read me that question again?

(Whereupon, the pending question, as recorded, was [fol. 2765] read by the reporter.)

By Mr. Littman:

Q. When I speak of "group", I mean the group exclusive of Tipton, Fayette and Jefferson laterals.

A. No, the group includes the Jefferson and Fayette laterals. The group includes all lateral lines in Missouri exclusive of Tipton lateral.

Q. Well, Mr. Biddison, do you think that the data that you had on the Tipton, Fayette and Jefferson lateral was sufficient data upon which to predicate a true and correct percent condition on the other lateral lines in the State of Missouri?

A. Of course, it is not as good as if you had twice as much information but it is enough upon which to draw a rational conclusion.

Q. Why didn't you weight into your judgment the findings on the Tipton lateral?

A. Because my information that I secured upon inquiry indicated that on this line, conditions were particularly severe and the information obtained upon the inspection of the main line running clear across the State did not indicate that such conditions were at all general in the State.

Q. Well, you certainly used two laterals, namely, the Fayette and Jefferson laterals which showed the lowest percent of depreciation and applied that to the remaining laterals in Missouri which you did not observe?

[fol. 2766] A. I used the only other two available. If there had been ten others available, I would have used them.

Q. Why were the conditions on the Tipton lateral so extraordinary as not to be usable as data?

A. I do not know. All I know is that the conditions indicated by the reports show them to be unusable.

Q. Now, did you make any inspections on any of the laterals in Illinois? A. Yes, sir.

Q. How many inspections did you make? A. Five.

Q. Were there any lateral lines in Illinois upon which neither you nor company representatives made any inspection? A. Yes.

Q. Will you name those, please, and give the approximate mileages from Mr. Burnham's map No. 15?

A. Roodhouse lateral, about 5 miles; Jacksonville lateral, about 10 miles. There may be, in addition, some branches of laterals on which there were no inspections. I cannot determine that without an analysis of the inspection reports on the alignment map.

Q. Now, there were a number of river crossings, were there not, on the lateral lines in the States of Missouri and Illinois?

A. Yes, there are some river crossings on some of [fol. 2767] those laterals.

Q. For instance, there is in Illinois the San Gamon river crossing and the Illinois River crossing, is there not?

A. Yes, and the Mackinaw River and Salt Creek.

Q. You did not make any detailed inspections on any of those river crossings, did you, Mr. Biddison?

A. No, sir, I did not.

Q. In Missouri, there is the Salt River and Turkey Creek crossings, is there not? A. Yes, sir.

Q. The Mississippi River crossing and the Missouri River crossing, is that correct? A. Yes.

Q. Did you make any inspections on those river crossings, Mr. Biddison? A. No, sir.

Q. Now, speaking of inspection points, generally, at which you personally were present, Mr. Biddison, who



selected the various inspection points over the pipe line system? I am now speaking of all of the lines that were inspected?

A. I did.

Q. Will you describe, generally, the method pursued by you in selecting these inspection points?

A. Well, the method was to roughly secure a fairly uniform distribution of observations over the pipe line [fol. 2768] system and restrict the observations mostly to the larger lines.

Q. May I interrupt to ask, Mr. Biddison, who determined the number of inspection points? A. I did.

Q. What was the basis of the number selected? Was it based upon the amount of pipe or what? What governed that situation?

A. Well, the thing that governed was my judgment of the number of inspections that would be requisite to make a rational determination of the condition of those mains.

Q. And by mains here, you are talking about the entire pipe line?

A. That is right. I had it in mind as to well lines, that observations upon the larger gathering lines would give a comprehensive picture of the situation that existed upon pipe lines in either of the producing fields and that, therefore, it would not be necessary to make inspections on the smaller well lines, that their condition would be in accord, generally, with the condition found upon gathering lines.

As to the Local Area around Kansas City, it was my idea that it was not advisable to use time inspecting that pipe when it was required that we be prepared for this hearing by a specified day which did not allow much time for preparation and that their value could be predicated upon the prospects of future life if they had not already suffered obsolescence.

[fol. 2769] Q. May I interrupt to ask, did you use the company's soil survey in locating the inspection points?

A. I did not.

Q. You knew there was such a survey, did you not?

A. I knew some soil survey work has been done.

[fol. 2770] Q. Now, did you use a map to assist in the selection of the inspection points?

A. Yes, sir. I did.

Q. And did you spot the inspection points on the map over the lines?

A. Yes, sir. I made approximate locations upon a system map and I discussed the number of locations and their approximate location with representatives of the Federal Power Commission prior to making the final and definite locations.

That was done with the view that those representatives might themselves wish to make some locations and in the final analysis, I, myself, made all the locations and using this system map as a guide, the locations were marked off upon alignment sheets so as nearly as possible, to obtain locations that would be convenient of access by automobile.

Q. How did you determine the spacing between inspection points on the lines?

A. I first examined the total number of holes and then gave them a fairly uniform distribution along the lines.

I originally had about 60 test holes upon the main lines, and I subsequently added about 31 more.

Q. You didn't select these points on the basis of, for example, one inspection point for every so many dollars [fol. 2771] of pipe, did you?

A. No, sir. I did not.

Q. It was kind of a random selection, was it?

A. I don't know whether you would call it random or not. It was a selection made in just the fashion I stated. I selected a number of holes and then gave them a fairly uniform distribution over the main line system.

Q. At points that were easily accessible by automobile?

A. Well, at points that we thought would prove to be fairly ready of access.

Q. Now, were those holes dug at precisely the point or points designated by you on this map?

A. No, there were a few instances where the locations were moved a little bit.

Q. What were your instructions with respect to the exact point at which the inspection holes should be dug?

A. If this proved to be a point where it would be of considerable inconvenience to the land-owner, or a location where there were obstacles to digging, or where it was solid rock so that the digging of the hole would be unduly expensive, the field superintendent had freedom of action to move the location.

\* Q. How far could he move it one way or the other?

[fol. 2772] A. I didn't set any limit on it.

Q. And he did move some of those inspection points, did he not?

A. Yes.

Q. Your inspection point was designated on the map close to a road in each instance, was it not?

A. I picked locations on the map which were close to what were designated as roads on the map.

Q. And you left the matter of the precise location in the hands of the superintendent?

A. I gave the station location for the hole and gave instructions which I have already recited, but if, as a matter of practicability, the location was one where the digging of a hole would be unduly expensive, or would cause a property owner undue inconvenience, it would be satisfactory to move the location.

Q. Now, Mr. Biddison, you mentioned something a moment ago about representatives of the Federal Power Commission in connection with these inspection points. Did any representatives of the Federal Power Commission select any inspection points?

A. No, sir. They refused to do so on the final analysis.

Q. So that the selection of the points was entirely yours and that of the superintendent?

[fol. 2773] A. The selection of the point was entirely mine, as I have previously explained two or three times.

Q. Mr. Biddison, I believe you testified that the inspections which you made for the purpose of this proceeding were the same as that which would be required to determine the value and condition of the property for the purpose of purchase or sale, is that correct?

A. Yes, sir.

Q. Does your percent condition represent the proportion of the pipe lines which a prospective purchaser would expect to receive for his money?

Mr. Culten: May I have that question read, again?

(Thereupon, the last question was repeated as recorded by the reporter.)

By Mr. Littman:

Q. Expressed in percent of condition new, if that will help clear it up.

A. Well, it might or it might not, depending upon the condition of sale.

Q. Well, then, what do you mean when you say that the inspections which you made for the purposes of this proceeding, were the same as those which would be required [fol. 2774], to determine the value or condition of the property for the purpose of purchase or sale?

A. Well, if a purchase or sale is to be made, there is usually some bargaining about it. But the matter of what the value is is always a matter for consideration, and it is this value that I sought to determine by use of the results of my inspection and other factors.

Q. Well, does your percent condition then represent the percentage of the value of the pipelines which a prospective purchaser would expect to pay?

A. I think what a prospective purchaser would pay is a matter of bargaining, but the value is a guide to him in making his negotiations.

Q. And this percentage would be your recommendation to a prospective purchaser in that connection, would it not, if you were representing the prospective purchaser?

The Witness: The percentage which I have deducted is the percentage which I would tell a prospective purchaser if I were working for him, or a prospective seller if I were working for him, by which the property had lost value.

By Mr. Littman:

[fol. 2775] Q. Now, what is the purpose for which a purchaser would use this property?

A. In making up his mind what price he could afford to pay for it.

Q. Perhaps you misunderstood my question, Mr. Biddison.

To what use would you expect a purchaser of this property to put this property of Panhandle Eastern's system? What would a prospective purchaser be expected to use this property for?

A. The only purpose I know to use it for would be to transmit, produce and sell natural gas. That is what it is designed for and used for and usable for.

Q. And what you have said, of course, is true of the pipe line, isn't it?

A. It is useful for the transportation of the gas; yes, sir.

Q. Now, don't you think that under those circumstances, a purchaser of this property would take into consideration in the fixing of the price that he was to pay for this property, the length of time that this line will remain useful for the purpose of carrying gas?

A. Yes, I feel right sure he would.

Q. And would he make some deduction from cost new [fol. 2776] by reason of the claimed depletion of the gas supply?

A. No, I think not. On the contrary, I think he would pay a handsome bonus for the fact that the thing is finished; operating, the plant is proven and tested, operating efficiently, the market is developed, and the concern has a history of business and success rather than a prospect.

Q. And suppose this purchaser were contemplating buying this property in 1964, one year before, according to your claim, the gas supply would be exhausted.

Would he then deduct anything by reason of the fact that practically all of the gas supply has been exhausted?

A. I feel sure he would.

Q. Certainly. And he would make a deduction in his own mind a good deal sooner than 1964, would he not, by reason of the claimed exhaustion of the gas supply?

A. I think probably he would.

Q. Have you made any deduction from your value or book cost by reason of that element, Mr. Biddison?

A. No, because that element is not operative as to value on this property and will not be operative on this property until after such time as, due to the failure of gas supplies, the construction of the system would not be an economic venture.

Q. But it is operative right now, as far as you are concerned, in fixing an annual allowance for amortization, is it not?

[fol. 2777] A. Certainly. We have to accrue for a great many things that we know will happen, things which do not cause loss in value until they occur, but the certainty that they are going to occur requires that we accrue for them in advance.

Mr. Lee: May I ask a question?

Then what happens to those accruals predicated upon the time you have fixed, if the occurrence does not take place and you continue in business?

The Witness: If the occurrence doesn't take place, that is just a piece of good luck.

Mr. Lee: It is a piece of poor luck for the consumer in the meantime, isn't it?

The Witness: That may be. On the contrary, it is a piece of bad luck for the owners of the property if those things occur and they have not accrued for them. So the best one can do is to exercise an intelligent judgment in taking care of the things which experience has shown us do occur in such a business.

[fol. 2783] By Mr. Littman:

Q. You said a minute ago, Mr. Biddison, that a prediction had to be made about the abandonment date of this property. You have not made any prediction yourself, have you?

A. I have taken the abandonment date predicated as coincident with the time when gas production from these [fol. 2784] fields will not be profitable.

Q. That is simply a way of saying that you made an interpretation of the statement submitted by Mr. Ralph



E. Davis and based upon that interpretation you arrived at your abandonment date in 1965.

Isn't that all it amounts to?

A. That is substantially it and I have so explained it several times.

Q. So that it is not your prediction, but if it is anybody's prediction it is Mr. Davis'. Is that correct?

A. That is a result of his written statement and I have used the period through which he predicts sufficient supplies, or substantially that period, as a period by the end of which amortization of the property should be complete.

Q. And Mr. Davis didn't make any prediction about this property being abandoned in 1965, either, did he, Mr. Biddison?

A. No.

Q. Now, before leaving the subject of transmission lines and other lines included within the meaning of that term, I believe you testified this morning that where you found pitting at inspection points on that part of the main transmission line leading and extending from Liberal station to Greensburg station, you used a factor of 95-percent condition and, that when you came to the gathering lines and found pitting of the same type and sort, you classed those lines as in 90 percent condition.

[fol. 2785] Is that substantially your testimony?

A. That is what I did do and that is what I said I did.

Q. Now, you gave as the reason for that the fact that the gathering lines were covered with Ace paint which is a cold application, whereas the transmission lines were covered with a hot application of paint.

Is that a correct statement of your testimony?

A. There are exceptions to that, but that is a rather general situation. In the field they have used a lot of that Ace paint.

Q. Are there any other reasons why you went from 95 to 90 percent on the field lines and gathering lines?

A. Yes, as I explained this morning and as I will try to do again, because the field lines are not as well protected as are the main transmission lines, and because of the field conditions in general as affecting pipe, I have made an

additional allowance on field lines for depreciation above those that I allowed on the main lines for the same viewed conditions as a matter of judgment.

Q. What are these field conditions in general that you speak of? I think I understand what you mean when you talk about paint, but the field conditions in general is something I do not understand.

A. In general, on field lines you have the opportunity for some of these small but rather intensively corrosive [fol. 2786] spots due to the blowing of drips and items of that sort.

Q. Don't you have drips on the main lines?

A. Yes, you have drips on the main lines but you do not have the liquid in those main lines as you would in the field lines.

Q. You would not have much in this line. This is the line closest to Liberal station where the gas is dehydrated.

A. You don't have much in any of the lines because the gas is dehydrated before it goes to the main lines. But you do have it in your field lines.

Q. That is a matter of corrosion, isn't it?

A. No, sir, it is not. As I was explaining, the drips from the field lines produce conditions around the lines which produce concentration of action on the pipe and, numerous elements of that sort affect field lines that you don't have on the main lines.

Further than that, you have exposed fittings on field lines that are subject to damage from stock and conveyances that get around over the producing areas, and it is for those things that I made an additional allowance from what I would have made had I seen the same conditions on the pipe on the main line system.

Q. Was that by the observation method?

A. You can call it any name you want to. I am trying to explain to you what I did and why I did it.

Q. You didn't see any effects of what you just described [fol. 2787] scribed, did you, on these lines?

A. Yes, certainly I did.

Q. As reflected at your observation points?

A. My observations were on lines which I have classed as gathering lines and for them I have made a determination of condition and given that condition to include the well lines.

Q. All right. Now, tell us at what inspection points did you observe the effect of drips that you explained a minute ago?

A. I don't know, but I do know that I saw drips and saw the accumulation of stuff that you find around drips in proximity to pipe lines. And I know it is common to find that in fields, and you find it in the Hugoton field and in the Panhandle Field. It is in every field that I have ever been in.

Q. You didn't see the effect of it on the bare pipe, the exposed pipe, at an inspection point, did you?

A. If I did, I don't know. If I did I have not made a notation of it to that particular effect, that I now recall, at least.

Q. At any rate, one of the major reasons for the difference between the 90 and 95 percent condition which you have described, was due to the difference in the protective coating?

A. Due to what I consider to be the effects of that difference in coating. The major element is just my judgment, but I think as a matter of common sense, one can [fol. 2788] expect a greater loss in value on lines of that sort than you would find on the main lines from identical observations at scattered locations and one should make allowance for it.

Q. Although you didn't see it?

A. That is right.

Q. But where you had two of the same things, the same conditions observed on a transmission line and on a gathering line, pitting in both places of the same kind, you put the transmission line in 95 percent condition and you put the gathering line in 90 percent condition?

A. No, I did not.

Q. That is what I thought you said.

A. No, that is not what I said.

Q. What did you say?

A. I said that on the main lines for the average condition of pitting which I found, I made a deduction of 5 percent on that proportional part of the length which I computed to be pitted, and then I said that on the gathering lines where I had data that showed there was pitting, I estimated that on the average that meant a loss of 10 percent value.

Pitting on none of these lines is severe. In most cases, it is trivial.

Q. Was that 10 percent based at all upon the fact that those gathering lines might be taken up ahead of the main transmission lines?

[fol. 2789] A. No, sir, it was not.

Q. Now, you have made a deduction, as shown on Exhibit 69, from the book cost for compressor station structures shown in Line 29 of Page 1 in the amount of \$57,773.53 which, according to my arithmetical computation amounts to a deduction of 4.4 percent. Is that correct?

A. That appears to be 4.39 percent.

Q. Now, did you personally visit and inspect all of the compressor station structures?

A. No.

Q. Which ones did you not inspect?

A. I did not inspect the ones in the Local Area around Kansas City.

Q. Did you inspect all the others?

A. I inspected structures at all the other compressor stations. I did not make notations on every structure inspected.

Q. Well, now, will you give us the method used by you in arriving at your percent for compressor station structures, using as an example, for instance, the Lewisburg compressor station?

In the first place, tell me how long you were there, approximately?

A. Well, I was in Lewisburg about an hour and a half.

Q. What did you do when you were there?

A. I looked at the compressors in the main compressor building. I looked at the shop equipment in the shop [fol. 2790] building and the auxiliary equipment in the auxiliary building.

Q. Pardon me, Mr. Biddison. May I interrupt you and ask you to confine your answer to observations on the transmission station structures as distinguished from the equipment?

How much time did you spend making observations on the structures as distinguished from the equipment?

A. I couldn't separate those two because I was looking at one or the other alternately.

Q. About half the time on each would, you say?

A. I don't know.

Q. What did you examine about the structures?

A. I looked to see if they were well maintained, whether corrosion was manifest, whether windows and doors were intact and, I looked for signs of deterioration.

Q. Do you recall offhand in what percent condition you placed the Lewisburg compressor station structure?

A. For the compressor building at Lewisburg station I have deducted 10 percent.

Q. Do you have any breakdown of that percent as between the various items of property?

A. No, sir.

Q. That is an over-all figure for the entire structure?

A. That is correct.

Q. Now, in order that it may be perfectly clear, you didn't put a percent condition on the foundation, for instance, and then on the floors and then on the lighting, [fol. 2791] heating and plumbing, and then on the siding and roof, did you?

A. No, sir, I did not.

Q. How did you arrive at this over-all 10 percent?

A. That is my judgment after having looked at the structure and found that so far as the framing was concerned there was no deterioration noticeable, but having also noted that there was some loss of zinc on the galvanized coating on the corrugated sheets.

Q. What part of the cost, would you say, of a structure of this kind, is represented by the walls and roof, that is, the corrugated sheet iron to which you referred?

A. I can't give you a breakdown on that. I have nothing before me that would give it.

Q. Do you have a rough idea of approximately the percentage of the over-all cost?

A. I have nothing before me. It would be purely a guess on my part in the absence of any information being available.

Mr. Culton: You might refresh his memory, Mr. Littman, from what you are looking at there.

By Mr. Littman:

Q. Did you look at the roof of this compressor station structure at Lewisburg?

A. Yes.

Q. How did it look to you?

[fol. 2792] A. It looked like some of the galvanizing was pretty thin on it, on the old portion.

Q. Did you make any inquiry of anyone at the compressor station with respect to the condition of that roof and the corrugated sheet-iron walls?

A. I don't recall having done so. I don't think I did.

Q. Well, in what percent condition, you having observed this roof and the walls, would you put the roof and the walls?

A. I didn't segregate it. As I stated, I deducted 10 percent for the structure.

Q. Well, you looked at it, didn't you?

A. Yes.

Q. Well, tell us.

A. I have told you.

Q. Tell me now. What percent would you have put it in had you made a segregation? You saw it, and it wasn't very long ago.

A. I don't know. I deducted 10 percent on the building as a whole, and I did not make a separate determination of the amount to be deducted on the constituent items thereof, nor did I make any records from which I could do so.

Q. Did I ask you, Mr. Biddison, whether you did or didn't? I asked you now to state the percent condition which you would, in your opinion, place upon the walls and roof of the Lewisburg compressor station.

[fol. 2793] A. I don't know.

Q. You were talking a minute ago about the condition it was in. You said it had lost some metal and so forth. Don't you remember enough about it to give us an idea of the percent condition?

A. No, sir, I do not. My field notes do show that on the main building, the galvanized sheets were about 90 percent condition, but I have no segregation whatever as between walls and roof, but the over-all figure on those sheets.



[fol. 2795] By Mr. Littman:

Q. Now, you have made an allowance or deduction for depreciation as shown on Page 2 of Exhibit 69 near the bottom of the page of \$42,540.70 for depreciation on the gasoline system property.

That represents a deduction for depreciation of 6 percent, does it not?

A. That is substantially it. It looks like it would be just about that.

Q. All of this property described in Lines 19 to 29, inclusive, represents the Liberal gasoline plant, does it not?

A. Yes, sir, and Lines 26 and 27 represent construction work in progress at the gasoline plant.

Q. Yes, that is a small item. And, of course, you have made no deduction for depreciation on that?

A. That is correct.

Q. Do you know when the Liberal gasoline plant was constructed? A. 1936.

Q. So that at June 30, 1941, this plant was approximately  $4\frac{1}{2}$  years old, wasn't it? A. Yes.

Q. Now, your deduction of 6 percent for depreciation represents an average depreciation of 1.33 percent per year since the gasoline plant was constructed  $4\frac{1}{2}$  years ago, does it not?

[fol. 2796] I am speaking now of an average.

A. The total amount which is depreciated divided by its age represents a figure about like that.

Q. Now, you are claiming in Exhibit 68 for an annual allowance for replacements on this gasoline plant as shown in Line 33 of that exhibit the sum of \$34,993, or 5 percent per year, are you not?

A. Yes, sir, that is correct.

[fol. 2797] Q. At any rate, your claim for annual allowance for amortization and for replacements on the Liberal gasoline plant totals approximately \$50,000 a year, does it not?

A. Yes.

Q. And your deduction for accrued depreciation over the expired life of Liberal gasoline plant of  $4\frac{1}{2}$  years is only \$42,540. Is that correct?

A. That is right.

Q. Now, let's turn to general office equipment, Mr. Bidison. You have deducted approximately 15 percent for depreciation on that equipment, have you not?

Line 2 of Page 2 of Exhibit 69 shows office equipment as per books in the amount of \$78,082.36, and the deduction [fol. 2798] for depreciation in the amount of \$11,712.35, which makes a reduction of 15 percent, does it not?

A. Yes, sir.

Q. Now, how did you go about determining the depreciation to be deducted for the office equipment?

A. That is simply my judgment of the amount by which that equipment has lost value.

Q. Did you observe all of the office equipment owned by Panhandle Eastern Pipe Line Company, wherever located?

A. I don't think so.

Q. How much of it did you observe approximately, in percentage?

A. Well, I think probably I have seen 75 or 80 percent of it.

Q. Did you ascribe a definite percentage to each item of office equipment that you observed?

A. I did not. I estimated that, on the whole, it had lost about 15 percent of its value.

Q. How did you estimate the 80 percent of this equipment that you didn't see?

Mr. Wheat: The what percentage?

Mr. Littman: The 20 percent. I am sorry.

The Witness: I didn't estimate it. I estimated that, on the whole, this \$78,082.36 worth of office equipment had lost 15 percent of its value in one estimate. I didn't [fol. 2799] segregate it down between property which I had seen and property which I had not seen. I didn't break it down at all in any way, shape or fashion.

Q. How did you arrive at the percent condition of the property which you did not see, by the observation method?

A. I didn't arrive at it separately. I arrived at the conclusion from what I did see, that the property as a whole had lost value to the extent of 15 percent and, therefore, I deducted 15 percent.

Q. Without looking at one-fifth of it?

A. That is right.

. . . . .

[fol. 2801] Q. Suppose you tell us upon what you based this 15 percent. What did you look for, and what did you see? Tell us about it.

A. I saw the equipment was generally in excellent condition and showed little signs of wear and tear; that the machines and calculators were in excellent shape; that the steel filing cases showed practically no wear and tear.

Some of the office furniture and fixtures was of quite recent purchase.

Now, I have at various times examined office furniture and fixtures in detail and assigned a specific condition to each and every individual item on the inventory, and having done that in some other cases, I think I have been experienced enough in looking at that sort of material that I can form an over all judgment that may not be exact, but is close enough to the truth to serve the purpose and very little in error, if any, one way or the other.

Mr. Lee: Did you have before you the books of the company showing what this furniture cost?

The Witness: I did not.

By Mr. Littman:

Q. You had to have the cost of the property or some basis of cost in order to make a proper weighting, and in order to arrive at a properly weighted percent condition, did you not?

A. As I have previously stated to you, Mr. Littman, in regard to this item of office furniture and fixtures, and I will state it again, I did absolutely no weighing on it whatever.

It is my judgment that that property as a group has lost 15 percent of its value.

Mr. Lee: Without [tell] us what that value is from which you deducted 15 percent?

The Witness: Yes. The value against which I applied the 15 percent is shown in the exhibit which we are discussing.

[fol. 2806] P. McDONALD BIDDISON, a witness, having been previously sworn, resumed the stand, was examined and testified as follows:

Cross Examination (Continued).

By Mr. Littman:

Q. Mr. Biddison, did you make an inventory of the property of the Panhandle Eastern Pipe Line Company and its wholly-owned subsidiary, Illinois Natural Gas Company?

A. I compiled an inventory.

Q. What was the basis of your compilation of inventory?

A. The basis of my inventory was a statement of the property upon the plant and property records, details of property records maintained by the Gas Production Department, details of gas property maintained by the Engineering Department of Panhandle Eastern Pipe Line Company, and with respect to some small classifications of comparatively small amounts of property, a field check and inventory. That applied, however, to a very small amount of property.

Q. Is that the character of an inventory that you usually make for purposes of rate proceedings?

A. It is if there is sufficient information available. If there be not sufficient information available, it is some [fol. 2807.] times necessary to resort to field count in order to obtain suitable inventory. That is seldom necessary, however.

Q. Well, let me see if I correctly understand your testimony with respect to inventory.

You relied on the records or inventory made by the company, did you not?

A. Very largely.

Q. In other words, you did not go out and make your own inventory of the property, did you?

A. I didn't go out and make a new count on the property. I relied on the data which was available in the office, with some supplemental checks in the field on some few items and spot checking on general items.

Q. Do you know, of your own knowledge, whether all the property whose book cost is reflected in Exhibit 69, is all present and accounted for as used and useful in the public service?

A. I do not.

Q. In arriving at your weighted percent of depreciation to be deducted, did you base your percentages upon the assumption that all the property whose cost is included in Exhibit 69 was all present and accounted for as used and useful in the public service?

A. It was not necessary to make any assumption whatever in that regard. I determined the percentage by which [fol. 2808] various classifications of property have lost value. I have applied those percentages to the stated value.

Q. Well, in arriving at your basic percentages of depreciation, you took the company's inventory at face value, did you not?

A. I did not take any inventory in connection with Exhibit 69. I simply applied the results of my observations to the stated book value of the various classes of property.

Q. Well, I am now speaking of your original determination of the depreciation based on the reproduction cost of the property.

X. In my reproduction cost estimate of the property, I made spot checks to check the inventory, and I checked the records in the Engineering Department against those on the plant and equipment records to reconcile any discrepancies, and to make sure that there were no material errors in inventory that would affect the result.

Mr. Wheat: May I ask the witness a question?

Mr. Littman: Yes.

Mr. Wheat: In this last answer, you were referring to what you did in connection with Exhibit 62, were you?

The Witness: Yes, and 39.

By Mr. Littman:

Q. How extensive was your spot check of the company's inventory?

[fol. 2809] A. Well, I checked the footage of pipe on various lines as shown by the plant and equipment records, with the footage shown by the Engineering Department's survey records upon completion of lines.

I checked the fact that the compressor stations are substantially as called for by those records.

I have been in every one of them. I had been in all of them prior to the time of preparation of this case and knew what most of them contained. I have been in every one of them since.

I have seen a great many of the structures under the heading of "Transmission system measuring station structures." I have seen a great many of the wells and well measuring station structures and their equipment. I have taken photographs of the system from one end of it to the other.

Q. Did you make any inventory of the office equipment? A. I did not.

Q. Did you make any check of the company's inventory of the office equipment? A. I did not.

Q. In other words, you cannot state positively that all of the office equipment which appears on the company's books as of June 30, 1941, is present and accounted for and used and useful in the public service, can you?

A. Obviously not, since I didn't take an inventory of it, [fol. 2810] obviously not.

Q. Do you know what amounts have been accumulated in the depreciation reserves of the Panhandle Eastern system June 30, 1941? I mean by "depreciation reserves" reserves for depreciation and amortization and depletion.

A. No, sir, I do not have that data before me.

Q. Do you have a copy of Exhibit 48 before you?

A. No, sir.

Mr. Culton: It is Mr. Watkins' balance sheet.

The Witness: No, sir.



By Mr. Littman:

Q. I hand you a copy of Exhibit 48 and refer you to Page 2, lines 28 to 33, inclusive, and ask you whether I am correct in stating that the balance in the reserve for depreciation of gas plant as of June 30, 1941, was \$9,345,403.01?

Mr. Wheat: Are you asking this witness to testify as to a fact on that or whether he sees that figure on that exhibit?

Mr. Littman: I am asking him whether he knows that to be a fact.

By Mr. Littman:

Q. Do you know that to be a fact?

A. All I know is that the figure is correctly read from the line and page of the exhibit quoted.

Q. Do you know whether or not that is the correct balance in the reserve for—

A. (Interposing) All I know about it is—

[fol. 2811] Q. Just a minute. —For depreciation of gas plant as of June 30, 1941?

A. All I know about it is that the figure was correctly read from the line and page of the exhibit quoted.

Q. Am I correct in stating that the figure shown for reserve for amortization and depletion of producing natural gas land and land rights, as of June 30, 1941, is \$403,389.43 as shown on that exhibit?

A. All I know is that the figure has been correctly read from the line, page and exhibit quoted.

Q. And am I correct in reading from that exhibit that the reserve for abandoned leases at June 30, 1941, was \$386,721.48?

A. All I know is that the figures were correctly read from the line, page and exhibit quoted.

Q. Do you have an opinion as to whether or not the total of those amounts of \$10,135,513.92 represents reasonable and proper reserves?

A. Yes, I have an opinion on that matter.

Q. And what is that opinion?

A. My opinion on that matter is that as a matter of corporate business policy those reserves are a satisfactory balance for the present situation.

Q. And they are reasonable and proper?

A. From a corporate and business standpoint, yes, sir.

[fol. 2812] Q. Well, what other standpoint do you have in mind?

A. Well, from the standpoint of testing for what may be called the reserve requirement, I do not know whether they are in line or not.

Q. You advised the company, did you not, that the aggregate annual provision and the total reserves provided to date, were reasonable and proper?

A. I have so advised them upon occasion.

Q. And am I correct in stating that the total deduction that you recommend from book cost for depreciation is the amount shown at the bottom of page 2 of Exhibit 69 in the amount of \$3,903,102.46?

The Witness: I have not recommended it as a deduction from book cost. I have computed it as the amount by which the property had lost value, basing the computation upon book cost.

By [the] Littman:

Q. The figure that I have read you is the total deduction? A. \$3,903,102.46, yes, sir.

Q. Before leaving Exhibit 69, Mr. Biddison, I would like to take up the account shown on Page 4 of that exhibit entitled, "Compressor station equipment" shown in Line 34, which has a book cost of \$8,436,264.23, and [fol. 2813] from which you deducted for depreciation the sum of \$622,777.63.

I believe you have explained generally the method used by you to determine the depreciation to be deducted. That method was based upon the total hour life and expired hour life of the machinery, was it not?

A. It was for the main compressing units and for the auxiliary engine and generator units. It was not for any other property.

Q. Can you state the total life used by you for engines Nos. 500, 503, 504 and 505 at the Olpe station?

A. Are those numbers of main compressor units?

Q. Yes.

A. I have based the life of the main compressor units at Olpe station upon 300,000 engine-hours.

Q. And what was the expired life expressed in hours of these engines?

A. One engine had operated 14,881 hours.

Q. Which one was that?

A. No. 500. No. 501 had operated 15,087 hours; No. 502 had operated 15,329 hours; No. 503 had operated 14,808 hours; No. 504 had operated 14,014 hours; No. 505 had operated 12,180 hours.

Q. Mr. Biddison, did you know at the time you made your estimate of the depreciation to be deducted for these engines, that several of the cylinders had been [fol. 2814] changed from their original positions due to repair of cracks and leaking liner joints?

A. Yes, sir. I have before me a record of those changes.

Q. Did that affect your determination of depreciation? A. Yes.

Q. How?

A. That is one of the things that I am accounting for by this allowance of deduction in value based upon engine-hours used.

Q. Does your 300,000 engine-hour figure take those things into account that I just named, such as cracks and leaking liner joints?

A. Yes, and if these things become serious and of great moment they will depreciate an engine more than the engine-hours basis that I have used.

If they are not of any moment, then the engine does not depreciate as much as in proportion to the engine-hours, the way I set it up.

Q. Now, on the Haven station your deduction for depreciation was there also based upon relating the expired life in engine-hours to the total life expressed in engine-hours, was it not? A. That is right.

Q. Do you recall whether it was the same total engine-hour life at the Haven station as at the Olpe station, namely, 300,000 engine-hours?

[fol. 2815] A. No, sir. At Haven station I used 325,000 engine-hours total life.

Q. Mr. Biddison, I don't recall whether you have stated on the record the total engine-hour life used by you for each of the compressor stations.

I know you gave some of them in your direct examination but I don't know whether they were all given. Could you refresh my recollection on that?

A. No, but I can put them in the record right now.

Q. And then we will have them all at one point in the record.

A. The total lives for engines and operative engine-hours which I have used in the determination of the amounts to be deducted for depreciation which has occurred in that equipment is as follows for the main compressor engines:

|  |                |
|--|----------------|
| Sneed station                              | 325,000 hours; |
| Hansford station                           | 200,000 hours; |
| Liberal station                            | 350,000 hours; |
| Greensburg station                         | 325,000 hours; |
| Haven station                              | 325,000 hours; |
| Olpe station                               | 200,000 hours; |
| Lewisburg station                          | 350,000 hours; |
| Houstonia station                          | 325,000 hours; |
| Centralia station                          | 300,000 hours; |
| [fol. 2816] Pleasant Hill Station          | 300,000 hours; |
| Glen Arm station                           | 350,000 hours; |
| Tuscola station, for the horizontal units, | 300,000 hours; |
| for the vertical units                     | 200,000 hours. |

Q. Have you completed your answer? A. Yes.

Q. When you made your determination of depreciation of the compressor equipment at Haven station, did you know that during the 1941 over-haul four of the power cylinders at that station were found to be cracked and were repaired by the chain lock process?

A. Yes. I had a letter before me telling me about that. I asked for a statement of matters of that sort in this connection.

Q. Did that affect the total number of engine-hours which you used, up or down? A. No.

Q. In other words, am I correct in understanding that you would have used the same total engine-hour life whether you were in possession of that information or not?

A. Certainly, I would use the same engine-hour life. The engine-hour life is predicated upon a general knowledge of the way in which machinery of this character

performs. I have been working with machinery of this character since 1905, and based upon experience during that period I set up these lives for units of the various [fol. 2817] classes.

Now, the condition on these cylinders is one of having been repaired and taken care of; not a condition of being out of repair.

Q. Am I correct in understanding that you would have used 325,000 engine-hours of life for the compressor engines at Haven station irrespective of whether these repairs had been made?

A. Certainly because the life is not predicated upon whether or not you are going to have a crack or two in a cylinder or in an exhaust valve part.

The life is predicated upon how long you are going to be able to keep the unit in service.

These things here may readily affect how much it will cost you to keep the units going throughout that life, but they are not the things that fix the life.

Q. And you have made a provision for replacements to take care of repairs such as those which I have described, in your Exhibit 68, have you not?

A. No, sir. These repairs are maintenance. There is no replacement of a unit there at all. It is a plain, ordinary repair charged to maintenance.

Q. Now, if an entire cylinder were replaced, what would that be charged to?

A. Under the classification of Panhandle Eastern Pipe Line Company that is a retirement and would be charged [fol. 2818] against the reserve account.

Q. And if these repairs to the cracked cylinders do not hold up and the entire cylinder has to be replaced, of course the cost of the entire new cylinder would come out of such an allowance as that made by you in Exhibit 68?

A. That would be the net effect of it. That would not be the process, I suppose, through which the matter would be carried. The new cylinder would be a capital charge and the one removed would be charged against reserve.

The net result is the same as I mentioned and that is the way I usually like to think of it but to do so in a

proceeding of this sort gets you snarled up when you are providing for retirements or replacements.

Mr. Chamberlain: Would the cylinder be a unit?

The Witness: It is under the classification used by Panhandle Eastern Pipe Line Company.

Mr. Chamberlain: But not in the present Uniform System of Accounts?

The Witness: This classification in use by Panhandle Eastern Pipe Line Company is in accordance with the classification requirements of the Federal Power Commission.

Mr. Chamberlain: And under that they have determined that the cylinder would be a unit?

The Witness: That is correct.

[fol. 2820] Trial Examiner: May I ask a question in connection with your testimony as to the exhibit marked for identification as 69?

After listening to these questions and answers the Trial [fol. 2821] Examiner's understanding of the purport of the entire testimony with reference to this exhibit might be condensed into this question which I will now ask:

Your deductions for depreciation as shown in this proposed Exhibit 69 reflect only your judgment of the present physical and mechanical condition of the property, as an indication to you of the percentage of useful life or capacity for service already consumed.

And in this study you have not taken into account the fact that this property may not be worn out before the gas is exhausted.

Is that a correct statement?

The Witness: Not quite, Mr. Examiner.

The deductions do include some allowances for obsolescence, they do include some allowances for loss in value or loss in service life, that cannot be seen. They do take



into account in the Local Area the fact that the reserves have been heavily depleted.

It is true, however, that generally the amount of deduction for depreciation which I have estimated is that which can be determined by investigation of the physical aspects of the property.

It is not, on the other hand, a determination of the deduction on the basis of making the deduction in proportion to the expired life in years compared to the total life in years.

[fol. 2822] Mr. Lee: (Interposing) But the last part of the question as given by the Examiner was: "Have you taken into account the fact that the property may be worn out before the gas supply is exhausted?"

Mr. Wheat: "May not be worn out."

The Witness: Yes, sir, I have taken that into account and I feel certain that the property will not be worn out at the time the gas supply is exhausted.

On the other hand, I feel certain that the property will be in pretty good operative condition at the time the gas supply is exhausted and for that reason there must be provided an accrual to make the replacements that will be required to let it operate until the supplies are exhausted, and because it will have been maintained in a highly efficient state of operation, in order that the investment in it may be recouped there must be an allowance made for amortization of that investment because this highly efficient plant when the reserves are gone [fol. 2823] will be worth just salvage value.

There is another sense, however, I think, in which maybe I have not answered that part of your question, and that sense is that I have not predicated the deduction for depreciation upon any ratio of past production to total reserves. I have not considered that in general this property has depreciated, because of the partial depletion up to date of its reserves and because of the shortening of its total life by the expired life expressed either in years or in reserves.

Trial Examiner: This answer may or may not clarify the problem that was in the Trial Examiner's mind. It seems to me, Mr. Biddison, in your Exhibit 66 you approached the retirement problem purely from the standpoint of the life of a wasting asset, the exhaustion of the gas reserves, but I did assume that in your proposed Exhibit 69 you had attempted to measure depreciation from a standpoint purely of the present physical condition without regard to the number of years that this property would be required in its present purpose or its present service.

I think this will all clear up, undoubtedly, on the re-direct, but the answers which Mr. Biddison has just given have rather—

Mr. Culton: (Interposing) Clarified it to some extent in your mind?

Trial Examiner: To some extent.

[fol. 2824] Mr. Littman: I think, Mr. Examiner, that in view of the fact that we have just completed our cross-examination on Exhibit 69 it might be wise to go over the various elements that he did or did not consider, to make certain on this record as to just what they were.

It won't take a minute, and I think it will clarify this record.

By Mr. Littman:

Q. Mr. Biddison, did you consider in arriving at your estimate of depreciation to be deducted, the wear and tear—and I appreciate you have answered this once but I think it should be summarized again here at this point while your recollection is refreshed and so is ours—did you consider wear and tear? A. I did.

Q. Did you consider decay? A. I did.

Q. Did you consider the action of the elements?

A. I did.

Q. Did you consider inadequacy? A. I did.

Q. Did you make any deduction for inadequacy?

A. I did.

Q. In what instance—in the Local Area?

A. No; in general on my allowance on the gasoline plant. I have made some allowance there for inadequacy.

[fol. 2825] Q. Is that the only place or are there others?

A. That is the only one that I recall now.

Q. If there are others, they would be—

A. Minor amounts.

Q. Did you consider the factor of obsolescence?

A. I did.

Q. Where? A. Particularly in the Local Area.

Q. Are there any others that you now recall [then] the Local Area, in which you made any deduction for obsolescence?

A. Not that I recall. If there be others, they are of less amount even than the Local Area property.

Q. Did you consider changes in the art?

A. Yes, but I do not think I have any allowances that could be particularly attributed to changes in the art.

Q. You considered it but you didn't find any or make any deduction for any. Is that correct?

A. That is correct.

Q. Did you consider changes in demand and requirements of public authorities? A. Yes, sir.

Q. Did you make any deduction by reason of such fact?

A. I don't recall having done so. I think I did not.

Q. Did you consider and did you give effect to the exhaustion of the natural gas supply?

A. I did where I thought that exhaustion or approach of exhaustion had reached the stage that it produced an effect upon value.

Q. Now, your answer with respect to the effect that you gave to it applies only to property in the Local Area, does it not? A. That is correct.

Q. In other words, is my understanding correct that you gave no effect to the exhaustion of the natural gas supply anywhere in the entire Panhandle Eastern system other than in the Local Area? A. That is correct.

Q. Now, in setting up your annual allowances for amortization in Exhibit 66, and in setting up your allowances for depletion in Exhibit 67, and in estimating your annual accruals for replacements in Exhibit 68, taking the three together, I will ask you whether you considered the following elements— A. Yes, sir.

Q. Decay? A. Yes, sir.

Q. Action of the elements? A. Yes, sir.

Q. Inadequacy? A. Yes, sir.

[fol. 2827] Q. Obsolescence? A. Yes, sir.

Q. Changes in the art? A. Yes, sir.

Q. Changes in demand and requirements of public authorities? A. Yes, sir.

Q. And did you consider the exhaustion of the natural gas supplies? A. Yes, sir.

Q. And the latter answer applies to the entire Panhandle Eastern system, pipe lines, compressor stations and all of its physical properties, does it not? A. Yes, sir.

Trial Examiner: Mr. Littman, there would be no question as to the definition of "obsolescence" as used by the witness.

Mr. Littman: I have been reading to this witness the various elements that appear in the Uniform System of Accounts prescribed for natural gas companies on Page 4 of "Definitions", which in part reads as follows:—I will read the sentence that includes the elements:

"Among the classes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities, and in the case of natural gas companies, the exhaustion of natural resources."

[fok 2828] Trial Examiner: Mr. Biddison, in your first answer to the question addressed to you by the Trial Examiner, if I correctly remember it, you used the word "obsolescence".

I think perhaps it might be well for you to define "obsolescence" as you used it in that answer.

The Witness: My recollection is that in that answer I used that term in speaking of investment in the Local Area.

Trial Examiner: You did not so limit it, but that may be included in your explanation.

The Witness: In the Local Area around Kansas City the properties have lost value by reason of the fact that reserves have been heavily depleted, and the investment would not now be made in full if it had not already been made.

That is, the present situation does not justify the making of the investment.

Now, under those conditions, I consider that obsolescence has taken place. It is that form of obsolescence resulting from the wasting away of the asset upon which the business depends, and the condition is referred to in the definition given in the Federal Power Commission classification of accounts which has just been read by Mr. Littman.

It is that particular condition that I have referred to under several circumstances as being a form of obsolescence.

Mr. Goodman: I understand your testimony in this way and will you please tell me if it is a correct understanding?

[fol. 2829] That in estimating the depreciation of a particular unit of property, you did not consider as bearing upon the amount of depreciation the fact that it was used in connection with a wasting resource.

You gave no consideration to the effect of a wasting resource if, in your judgment, an investor in the property would have found it advisable to place a new unit there of the same general type if the present one were to go out of service.

The Witness: That is correct.

Trial Examiner: Any other questions at this time in regard to Exhibit 69?

Mr. Chamberlain: One question I would like to ask here.

#### Cross-Examination

By Mr. Chamberlain:

Q. You acted as a consulting engineer for Panhandle Eastern in respect to the preparation of their registration statement for the issuance of bonds and their listing agreement with the New York Stock Exchange as mentioned heretofore, and in doing so it is correct, is it not, that you passed upon the propriety or reasonableness of the aggregate annual provision and, secondly, the reasonableness of the total reserves provided to date?

A. I have passed upon such matters upon several occasions.

Q. Well, now, in 1940 you passed upon the reasonableness of the provision for depreciation, depletion and amortization for the years 1938, 1939 and 1940, did you not?

A. I don't think I did all that in one year, for more than the one year.

Q. I call your attention to Exhibit 107 and the statement in Paragraph A at the top of Page 74.

Mr. Culton: What is the item which you are showing him? Is it a letter from Mr. Biddison or a statement from somebody else?

Mr. Chamberlain: A statement that the management has been informed by P. McDonald Biddison, an independent consulting engineer of Dallas, Texas, that in his opinion the annual amounts provided for depreciation, depletion and amortization were reasonable for this purpose.

The provisions for the years 1938, 1939 and 1940 were equal to 2.90 percent, 3.20 percent and 3.16 percent of consolidated property, book, plant and equipment accounts at the beginning of the respective years.

The Witness: Yes, that is the company's statement.

By Mr. Chamberlain:

Q. You did not do that?

A. I never said anything about that percentage proposition they have there. I never made any statement about what that was or what it should be.

Q. You mean you did not go through the formula of ascertaining the percentage, although you said that the [fol. 283E] amount was reasonable?

A. I mean by my statement that I did not determine those percentages.

Q. You mean you did not perform the mechanical feat of determining the percentage after determining that they were reasonable?

A. I didn't determine those percentages at all. Those are somebody else's determinations and you can take an amount of money and divide that by another amount and find it is a certain percentage. Somebody else did that, and not me.

Q. All right, then, I refer you to Page 73 of Exhibit 107 which shows the annual accruals for depreciation,



depletion and amortization of property account and equipment, and also the amortization of gas sales and purchase contracts, and ask you whether the figures for that were not submitted to you and whether it was not from those figures that you made your determination of reasonableness?

A. I think that is correct. I think those are probably substantially the figures that I advised them I thought were reasonable.

Q. Then, the percentages that are quoted on Page 74 are merely mathematical computations from what you said were reasonable, are they not?

A. That is correct, and it is quite apparent that I would [fol. 2832] not go out and state that a percentage figure was reasonable on property when the sums we are talking about contain items for depletion which don't properly tie in with property value.

Q. I think it would be a good time to get in the record here these facts and figures. It won't take but a few moments.

I hand you Exhibit 106 which is a registration statement of Panhandle Eastern under the Securities Act of 1933, Registration No. 2-4579, filed November 18, 1940, and I will ask you to state into the record the amount of the property, plant and equipment account as of the beginning of each of the years 1938, 1939 and 1940 as it was given to you at the time of making these conclusions.

A. I don't know whether those figures are on that page or not.

Q. Would you mind looking?

A. I can't identify the figures. All I can do is read the figures that are stated there. Whether they are the ones I used at that time, I don't know.

Q. Do you suspect that they gave the wrong figures?

A. I have no suspicions at all. I am telling you I don't know.

Q. All right. Were you to look at Schedule 5 identified as S-15, what do you find to be the balance of that account as of the beginning of the year 1938?

A. \$58,060,015.10.

[fol. 2833] Q. Now, what does that show the amount of the account at the beginning of 1939 was?

A. \$58,547,869.68.

Q. And what was the amount at the beginning of 1940?

A. \$52,479,728.22.

Q. And what was the amount of the account at the close of 1940 which would necessarily be the beginning of 1941?

A. \$64,854,956.29. Each of these amounts is qualified by a statement on this page of note A on the balance sheet. I don't know what that refers to.

Q. Well, that doesn't qualify your—

A. (Interposing) It doesn't qualify my reading of the figures from the page, but it might qualify their interpretation in some respects. I don't know.

Q. Now, Mr. Biddison, was not a copy or proof of that registration statement under the prospectus sent you before it was filed, and did you not check it before they filed it? A. No.

Q. You did not see that?

A. Well, I think I have seen it, yes. I think probably I have a copy of it.

Q. You haven't the slightest idea that the figures are not correct?

A. I don't have any reason to doubt their correctness at all.

[fol. 2835] By Mr. Chamberlain:

Q. Mr. Biddison, do I understand you correctly, that you merely gave them a judgment figure of what would be a reasonable accrual on that property?

A. I gave them my judgment after investigation.

Q. But your judgment was that the aggregate amount which had been accrued each of those three years was sufficient. How could you do that without knowing what amount had been accrued and upon what amount of property it was accrued?

A. I did know the amount of property on which it was being accrued and I did know the amount of accrual for the various purposes.

Q. Then, is your objection to adopting the figures appearing in the prospectus as to the amount of the accruals? Is that your objection, that you do not want to adopt those

figures? I call your attention to Page 73 of Exhibit 107 and ask you if—

Mr. Littman: That is 106 for identification.

Mr. Chamberlain: No, 107, the prospectus.

Mr. Littman: Oh, I am sorry.

By Mr. Chamberlain:

Q. I ask you if the figures following the line reading: "Depreciation, depletion and amortization of property, plant and equipment" and the figures following the lines [fol. 2836] "Amortization of gas sales and purchase contracts" do not cover the entire amount of accruals which were submitted to you as being the aggregate which you were to determine the reasonableness of.

A. I don't know. If I had copies of my letters here on that matter I think I could tell that, but I can't recall those figures after two or three years.

Mr. Wheat: We can furnish copies of those letters to you, Mr. Biddison.

Trial Examiner: Mr. Culton, you might perfect the record perhaps, on this incident.

Mr. Culton: We will furnish those as exhibits.

Trial Examiner: You have now handed Mr. Biddison some data which will perhaps refresh his recollection. That is what I had in mind and I have now stated it for the record.

Mr. Culton: We will now clear it up by presenting to the witness letters signed by him and addressed to Panhandle Eastern Pipe Line Company or different officers of it, dated December 13, 1937, December 29, 1938, December 8, 1939 and January 11, 1941, which we ask to have marked for identification as the next exhibit numbers, Mr. Examiner.

Trial Examiner: These will be marked as indicated and in the order read as Exhibits Nos. 108, 109, 110 and 111 for identification.

(The documents referred to were marked for identification [fol. 2837] as Exhibits Nos. 108, 109, 110 and 111, respectively.)

Mr. Culton: We will have copies of those and deliver them to you immediately after lunch.

The Witness: In exhibit 107, page 73, the amount shown to have been accrued for depreciation, depletion and amortization, including in amortization gas sales and purchase contracts is \$2,055,500.

Mr. Wheat: May I ask for what year you are reading, Mr. Biddison?

The Witness: For the year 1938. I reported to them upon December 13, 1937—

Trial Examiner: Whom do you mean by "them"?

The Witness: The Panhandle Eastern Pipe Line Company. I reported to them that the amount which they at that time proposed to set up, \$2,055,000, was within approximately \$50,000 of the amount I considered proper.

Continuing for the year 1939 there is shown to have accrued \$2,200,000 for the same purpose and, upon December 29, as shown by Exhibit 109—

Mr. Wheat: What year?

The Witness: December 29, 1938, as shown by Exhibit 109, I advised them that the amount of \$2,100,000 which was the amount then proposed to be set up, was a reasonable provision, and continuing, for the year 1940 there is shown to have been accrued \$2,210,000, and I advised Panhandle Eastern Pipe Line Company upon December 8, [fol. 2838] 1939, as shown by Exhibit 110, that the amount which they proposed to set up, \$2,200,000, was a reasonable provision.

I have furthermore advised them upon January 11, 1941, as shown by Exhibit 111, that the amount which they proposed to set up for these same purposes for the year 1941, namely, \$2,400,000, was a reasonable provision for depreciation, depletion and amortization.

Mr. Wheat: In that connection, Mr. Examiner, may I advert to the statement which at the request of counsel and the Examiner I made, I think on the second day of the

cross-examination, which showed that Mr. Watkins' Exhibit 49 disclosed that for the year 1941 with six months actual and six months estimate, the provision for these items, would in his estimation be \$2,414,657? I think the record should be tied in there so that it will show.

Trial Examiner: I am glad you referred to that. You will find that, gentlemen, commencing at Page 2482 of the transcript and I think that reference will be of interest in connection with all of Mr. Biddison's testimony given this morning.

Mr. Chamberlain: Your estimate as to the reasonableness of these accruals included, did it not, the amount, or an amount for the amortization of the gas sales and purchase contracts which were carried on the books of Panhandle during the years 1938, 1939 and 1940 as \$2,930,236.40—

[fol. 2839] Mr. Wheat: From what are you now reading?

Mr. Chamberlain: Exhibit 52, page 2.

The Witness: Yes, sir, I do.

By Mr. Chamberlain:

Q. And in the operating statement on Page 73 of Exhibit 107, the amount of amortization for gas sales is stated separately from that covering the depreciation, depletion and amortization of property, plant and equipment account? A. Yes, sir.

By Mr. Chamberlain:

Q. Referring to Exhibit for identification No. 111—well, I will waive that because it shows it includes a provision for amortization of the gas contracts.

A. Yes, sir, each of those accruals includes that provision.

Q. Now, Mr. Biddison, the depreciation which you have computed in your Exhibit 69 is as of June 30, 1941, is it not? A. Yes, sir, June 30, 1941.

[fol. 2849] Q. The depreciation which you found there would be as great as it would be—or, it would be in excess of what it would have been there on December 31, 1940, would it not, or at least not less?



A. I judge it would be in excess of that existing six months previously.

Q. I make no point of the difference, but it would have been as much, would it not, at the end of December—or a little less?

A. I think so. I can't think of any reason that would reverse that general trend.

Mr. Wheat: Difference in additions?

The Witness: Difference in additions could change it as a matter of percentage, but as to the amount of dollars I don't see anything to change the general forward trend at that time.

By Mr. Chamberlain:

Q. It would be substantially the same amount, would it not?

A. The difference would be so small as to be very difficult of determination.

Q. Now, in reaching your conclusions that the aggregate of the cumulative reserve was reasonable to cover the depreciation, depletion and amortization on the property, I refer you to Page 71 of Exhibit 107 which shows the reserve for depreciation, depletion and amortization of [fol. 2841] property, plant and equipment as of December 31, 1940, and this is consolidated and is \$9,189,501.24.

Now, that figure was at your disposal in order to make your determination, was it not?

A. I don't know if that exact figure was or not, but some figure representing that definitely was.

Q. It is substantially so, isn't it?

A. I have no reason to doubt the correctness of the figure here.

Q. Now, again referring to your Exhibit 69, you have made a careful examination of the depreciation on that property, have you not, and made your determination as to what that is? A. Yes, sir.

Q. Now, what is the balance, then, that would be covered in this \$9,189,501?

A. That is simply the residue that is left in the account.

Q. Is that the amount, then, for amortization of the property plus the depletion of your gas lands only?



A. It is stated that the reserves for depreciation, depletion and amortization embrace that figure of \$9,189,501.24.

[fol. 2842] By Mr. Chamberlain:

Q. If I understand you correctly, Mr. Biddison, then it would be your judgment that of the \$9,189,501.24 which had accrued for depreciation, depletion and amortization of property, plant and equipment, that not to exceed \$3,903,102.46 would represent the depreciation existing in the plant account including gas wells, is that correct?

The Witness: That is correct.

By Mr. Chamberlain:

Q. And the balance, then, would represent the depletion in leaseholds and amortization of the property?

A. Yes, sir, that is correct.

Q. I call your attention to Exhibit 108. I note the absence in Exhibit 108 of a statement which is contained in each of your Exhibits Nos. 109, 110 and 111, these for identification, to the fact that it is your opinion that the reserves for retirements, depletion and amortization at December 31, 1938, are reasonable reserves based on age and estimated life of the properties.

[fol. 2843] What was the reason for its omission in your letter of December 13, 1937, Exhibit 103?

A. I do not know. I just suppose I was not asked to make an expression on the matter and, therefore, did not do it. That is the only explanation I can give at this time. That is something that is not very fresh in my mind.

Q. Yes. I call your attention to Exhibit 52 on Page 2, which shows the gradual accumulation of the reserve for depreciation of gas plant and ask if the condition of that reserve up to and including 1937 refreshes your recollection as to your reason for its omission?

A. No, sir, it does not. I can give you no explanation of its omission except that I presume that I did not make an expression on it because I was not asked for an expression on it.

Q. You knew they had been accruing very light reserves up to that time, Mr. Biddison?

A. Yes, sir, that is correct.

Q. And that, up to that time the reserve was not such as would cover the depreciation on the property based on the age-life theory?

A. I do not know anything about that point. I made no investigation on that point.

Q. Then, in 1937, you made no investigation with respect to that?

[fol. 2844] A. No, sir, I did not.

Q. Then, in 1938, 1939 and 1940 you were asked to form an opinion with respect to the sufficiency of the reserve based upon the age-life theory?

A. No, sir, and never made any expression of it based on the age-life theory. When I say "age-life" theory in that respect, I mean the use of the relation of age to life as a measure of loss in value on property.

Q. I read from Exhibit 110 for identification, your letter to Mr. Neuner, Vice President of Panhandle Eastern under date of December 8, 1939:

"Further, in my opinion, the reserves for retirements, depletion and amortization at December 31, 1939, are reasonable reserves based on age and estimated life of the properties."

A. I meant by that that these properties had a long future life and that they had a low average age. I do not mean by that at all that I based the sufficiency of the reserve accruals upon any ratio of expired life to total life because I did not do that.

Q. You continued that statement each year, did you not, for the years 1938, 1939 and 1940 and also in your letter of January 11, 1941? A. I believe so.

[fol. 2846] Mr. Littman: I understand that.

Mr. Examiner, that completes, for the present, our cross-examination of Mr. Biddison on his exhibits. However, there is a matter I would like to have clarified in [fol. 2847] the record before going to another subject.

Is my understanding correct, Mr. Examiner, that Exhibit No. 39 entitled, "Panhandle Eastern Pipe Line Com-

pany and Subsidiary Companies Reproduction Cost New of Plant and Property in Business as of June 30, 1941" has been excluded in its entirety?

Trial Examiner: That is true.

Mr. Littman: Is it also true, Mr. Examiner, that Exhibit No. 39-A which is entitled, "Correction Sheets for Exhibit No. 39" is also excluded?

Trial Examiner: That is also excluded. The ruling of exclusion was made on November 24 and the ruling of exclusion applied, generally, to exhibits establishing reproduction cost or in which the reproduction cost element was conspicuous and while no specific mention was made at that time of Exhibit 70 and Exhibit 71, the ruling then made would also exclude proposed Exhibits 70 and 71.

Mr. Littman: Is my understanding also correct, Mr. Examiner, that Exhibit No. 62 is also excluded?

Trial Examiner: The ruling would also embrace the exclusion of proposed Exhibit 62 which was specifically mentioned in the ruling on November 24.

Mr. Littman: Now, we made an objection to Exhibit No. 38 which was presented by Witness Morton and which consists of two pages. I do not recall that your Honor had [fol. 2848] made any specific ruling as to the said Exhibit No. 38.

Trial Examiner: There has been no ruling that would affect the admission or exclusion of Exhibit No. 38.

[fol. 2849] Trial Examiner: There being no objection to the reception in evidence of the studies marked for identification as Exhibit 69, this exhibit will be received in evidence.

Mr. Culton: Defendant notes an exception separately as to the exclusion of each of the Exhibits 39, 39-A, 62, 70 and 71.

Mr. Littman: Is my understanding correct, Mr. Examiner, that Mr. Wallace's Exhibits 37 and 37-A are excluded?

[fol. 2850] Trial Examiner: These were excluded by the ruling of November 24.

Mr. Culton: And the same exception for the Defendant.

[fol. 2851] Mr. Littman: If your Honor please, I would like to inquire of counsel for Panhandle Eastern Pipe Line Company whether they propose to make a claim here for going concern value separate and apart from reproduction cost?

The reason I ask that question is in order that I may know how to proceed with my cross-examination. I understand that Exhibit 38 has not been ruled upon by the Examiner.

I understand that Mr. Biddison made an estimate of going concern value based upon the data submitted by Witness Morton in Exhibit 38. Now, I would like to know upon the record whether counsel for Panhandle Eastern are claiming going concern value separately and apart from their reproduction cost estimates?

I think we are entitled to have that information before proceeding.

Mr. Wheat: Mr. Examiner, the company is offering its witnesses on facts now. We will make our contentions at what we deem to be the appropriate time, I assume. We have offered certain facts in respect to the cost of attaching business. Your Honor has ruled with respect to an exhibit which contained certain of those facts and we believe erroneously so ruled in respect, at least, to those facts.

I refer, of course, to Exhibits 39, 39-A. We intend, of course, at the appropriate time and when argument is provided on the matter of the rates of the company to make the appropriate contentions based upon facts which [fol. 2852] have been adduced in this record.

Trial Examiner: It is the recollection of the Trial Examiner that there has been some discussion in the record as to going concern value or the cost of developing business and it is also the Trial Examiner's recollection that counsel for the Commission have perhaps tentatively

expressed a doubt whether the cost of developing business is an inherent element in the presentation of the evidence of reproduction cost new.

Whether claim for going concern value or the cost of developing business would be relevant in the situation we have here, we will adhere to the historical cost or actual cost of the property. Is that a correct statement, Mr. Littman?

Mr. Littman: Perhaps I had better amplify my statement a little further in order to make my position clear.

I contended at the outset that all of this claim for going concern value was part and parcel of Mr. Biddison's reproduction cost estimate. He labels it as such in Exhibit 39. He calls it reproduction cost and, in his summary, he calls it fair value after depreciation.

Now, in his Exhibit 39, he clearly shows that this purported claim for going concern value which he labels clearly and definitely as reproduction cost is composed of three elements: First, a claim for "value of gas purchase contracts"; Secondly, a claim for so-called "cost of business development" which consisted of two items, one, [fol: 2853] "Payments to utility companies" and two, so-called "Carrying costs on that portion of plant idle pending the development of business."

Now, the last element, namely, "Carrying costs on that portion of the plant idle pending development of business" was a figure derived by Mr. Biddison from Mr. Morton's Exhibit 38.

That is, it was Exhibit 38 that formed the basis for the figure adopted by Mr. Biddison.

Now, it is my recollection that I inquired of Mr. Biddison during his direct testimony as to whether or not all of these costs were a part of his reproduction cost and he said they were and that being the case, we objected to it as a part of reproduction cost and your Honor has sustained that objection thus far to everything except the basic exhibit, namely, Exhibit 38.

Now, your Honor has stated in ruling on the objection to reproduction cost that counsel for Panhandle Eastern

Pipe Line Company would be given every opportunity to offer all evidence other than reproduction evidence and they might revise their exhibits and make a new proffer of evidence which, in their opinion, does not represent reproduction cost.

I say that we, at this time, have no objection whatever, and I want to be perfectly clear about this, to counsel of Panhandle Eastern Pipe Line Company coming forward, if they desire, with evidence of going concern value if it [fol. 2854] is not based upon reproduction cost and if it is not, in fact, reproduction cost; reserving, however, all of our rights to object to it on any other ground considered necessary and requisite at the time.

In other words, we invite counsel for Panhandle Eastern Pipe Line Company to offer and present any evidence that they may desire to present on the subject of going concern value which they claim is not reproduction cost.

If they wish to do that, of course, they are at liberty to do so. I want it distinctly understood that our objection heretofore made to this going concern value was because this witness labeled it reproduction cost and we assumed that he meant what he said. Moreover he testified that it was reproduction cost and your Honor rightfully excluded it.

Mr. Wheat: May I ask when he testified this was reproduction cost only?

Mr. Littman: That is my recollection of it and I shall produce the record reference of it after lunch or correct my statement if I am wrong.

Mr. Culton: He did not testify it could be used only in reproduction cost.

Mr. Littman: No.

Mr. Culton: He said it was an element that could be used in determining reproduction cost.

[fol. 2855] Mr. Littman: If I said it was only reproduction cost, then I mis-spoke myself.

Mr. Culton: You did not use the word "only" but that is an inference that could be drawn.



Mr. Littman: This is my recollection of what happened about a month or so ago. I asked him if it was a part and parcel of reproduction cost and he said it was.

Mr. Wheat: May we have that citation because we do not find that in our transcript.

Mr. Littman: I shall give you the page to which I have reference.

Mr. Culton: Page 560 is what I have. Your question was:

"And they represent real costs and actual money expended on the history of this plant rather than mere past losses?"

Mr. Littman: My question was that?

Mr. Wheat: I think that was my question.

Mr. Littman: I do not think I asked any such question as that.

Mr. Wheat: That was my question.

Mr. Culton: What he stated was those costs would be incurred in the reproduction of the property.

Mr. Littman: Yes, there was some inquiry by me that I had reference to.

Mr. Culton: This is what he testified to while he was on the stand also:

[fol. 2856]. "They represent value because they are costs which would be incurred in the reproduction of this property, and they are costs which would be escaped by a purchaser who purchased the property with this business which has been attached by the expenditure of that money."

Mr. Wheat: And, of course, we shall, at the appropriate time, make such appropriate representation to the Commission as may properly appear from the facts which have been adduced on this record, whatever type of rate base they may apply to.

Mr. Littman: Well now, Commission counsel take this position: that counsel for Panhandle Eastern should make their position clear here.

They either want this going concern value or they do not. Now, if they want to sit idly by and claim that error has been committed on reproduction cost, I presume they are entitled to take that position. But if they are making any claim here for going concern value to be used in connection with an original cost is used as rate base or with a book cost rate base, separate and apart from reproduction cost, so far as we are concerned, they are at liberty to claim it.

Mr. Wheat: And the law will apply to those facts which are then shown in the record, Mr. Littman.

Mr. Littman: Well, you either want it or you do not, Mr. Wheat. You have not said you do.

Mr. Wheat: We have offered the testimony and it is in the record.

[fol. 2857] Mr. Littman: As a part of the reproduction cost. Do you want it separate and apart from reproduction cost?

Mr. Wheat: Mr. Littman, a witness in this proceeding offered a judgment with respect to this figure and that now appears of record and whether you are embarrassed by the fact that the entire Exhibit 39 and Exhibit 39-A have, upon your motion, been rejected, cannot now concern us.

The fact is we have offered this testimony and we intend to use this testimony as a basis for whatever claim may appear appropriate at the appropriate time. They are facts which we deem to be relevant to this entire proceeding and we suggest that if you have any question about this, you cross-examine Mr. Biddison upon the point.

Mr. Littman: My question, of course, has not been answered on the record.

Mr. Wheat: May I add, Mr. Littman, that it is our understanding that the item of going concern fits with any kind of rate base however it may primarily be developed.

Trial Examiner: This discussion is somewhat academic since there have been no objections stated to the proposed

Exhibit 38 which, I believe, was the basis for this discussion.

[fol. 2864]

O. W. MORTON, a witness, having been previously duly sworn, was examined and testified further as follows:

### Cross-Examination

[fol. 2895] By Mr. Goodman:

Q. In the case of the Michigan Gas Transmission Company, you know that they built their line subsequent to the making of the Detroit contract and for the purpose of supplying its requirements, isn't that right?

A. That is my impression.

Q. So that when they made their investment and provided the capacity, they had an actual market already secured, is that right?

A. I believe that is correct.

Q. Yes, and what was the interval of time from the completion of their construction project to its attaining capacity use, do you know?

[fol. 2896] A. I do not recall that, Mr. Goodman.

Q. Well now, as an engineer, you would have some knowledge or judgment on that, wouldn't you? Well, Mr. Morton, for all substantial practical purposes, they reached substantial capacity use when the line was completed, isn't that so?

A. I do not know that.

Q. You do not. Well, you took, I take it, the situation shown in Column C as your standard for capacity use, didn't you? That is, referring to Exhibit 38?

A. No.

Q. You did not. Will you show me the distinction between what my question implies what you did and what you actually did do? A. I cannot do that.

Q. You cannot. Does your inability to do that arise out of failure to understand my question?

A. I do not believe that it is worded so that I can get your point, Mr. Goodman.

Q. I see. Now, if you will refer to Page 2 of your Exhibit 38, can you point out upon what basis you have predicated the attainment of capacity use?

A. The attainment of capacity use, I do not recall ever having used that phrase, Mr. Goodman, and I do not understand what you mean by it.

[fol. 2897] Q. I see. Well, you have developed certain figures which you have designated as percent of unused capacity, is that right? A. Correct.

Q. Now, what is the base of that percentage?

A. There are five methods shown on this sheet to which you refer.

Q. All right. Can you indicate to me what is the standard of reference used by you under any one method which you have used for the making of your determination of percent of unused capacity?

A. The standard of reference was what I termed in my testimony as the "loaded year".

Q. What year was that?

A. Which year was October 1, 1936, September 30, 1937, and the performance of that year is the standard to which we have referred the other periods shown in the study.

Q. That is what I thought.

Now, I made reference to Column E before on Page 1, but the figures in Column F would be more applicable, is that right? That is the year that you have in mind?

A. That is the period to which we have referred the other periods.

Q. October 1, 1936, to September 30, 1937?

A. Correct.

[fol. 2898] Q. That is your "loaded year." In other words, you have taken the performance of that year as the representative or standard of loaded capacity?

A. Yes, sir.

Q. Referring to the figures in Line 18, maximum line capacity, for your standard of reference, you have 125,000 M. c. f. which appears in Column F, is that right?

A. Correct.

Q. Now, the corresponding figure appearing in Column E is 80,000, isn't that so?

A. Correct.

Q. Now, as a matter of fact, if you had only a maximum capacity of 80,000 M. c. f. how then can you use 125,000 M. c. f. as a standard of comparison?

A. The 125,000 shown in Column F is the capacity of the main pipe line for the period October 1, 1936, September 30, 1937.

The figures shown in previous columns, that is, A, B, C, D and E, Line 18, 80,000 M. c. f. to be exact, was the capacity of the main line system of Panhandle Eastern Pipe Line Company for those periods shown in Columns A, B, C, D and E.

Q. Exactly, and so, as a matter of fact, if you had a maximum day up to 80,000 M. c. f. prior to September 30, 1936, you had substantially all of the capacity, that is, you had substantially all of the load that your capacity could [fol. 2899] accommodate, didn't you?

A. Under the existing conditions, yes.

Q. As a matter of fact, between January 1 and September 30, 1936, your maximum day was slightly greater than your maximum capacity, is that so?

A. Correct.

Q. In other words, it carried an over-load?

A. Correct.

Q. Yet the purport of your exhibit denies that you obtained maximum use up to September 30, 1936, isn't that so?

A. The purport of the exhibit does not carry with it the idea that the line was carrying all of the gas for which it was designed in that period.

Maybe I can explain it this way. I believe the point you are making, Mr. Goodman, is that since the capacity of the line was 80 million during those early years and since it carried a load of 82 million at one time, then it must have been fully loaded. That is the point that you are making and that is true, that it was fully loaded under the conditions at which it was operating, that is to say, with three compressor stations, but it was not carrying the load for which it had been designed, namely, a full complement of compressor stations and that total capacity being 125 million.

Q. What is the present capacity of the line?

A. The present capacity of the line is 250 million a [fol. 2906] day sales capacity.

Q. Well, was the line designed for that?

A. The distinction which I think maybe we should make is that the line, as it stands today, is a looped line, whereas all of these comparisons were made by me on this exhibit, Exhibit 38, on the basis of the original single line.

Q. But as a matter of design, there is contemplated the ability to increase capacity, isn't there?

A. I believe that is correct.

Q. So that you cannot say that this line was in no sense designed for an ultimate capacity of 250 thousand M. c. f. per day, can you?

A. On the other hand, I cannot say that it was not designed as a single line.

Q. You know, as a matter of fact, that when the line was designed, was projected, it was designed in such a way that its capacity could be very substantially increased and increased considerably beyond 125 M. c. f. per day?

A. Now, you say it was designed in such a way that that could be done. Any single line can have its capacity increased by merely adding another line alongside it so that you could not say that this line was specifically designed to be expanded into two lines or three lines or four lines.

That is the inherent fact that goes with the construction of any single line.

[fol. 2901] Q. Well, at any rate, you then have taken as your standard of capacity the maximum performance of a single line, is that correct?

A. That is the basis for one of the five methods shown in Exhibit 38.

Q. Now, is all of the main transmission system looped?

A. No.

Q. It is not?

A. No.

Q. So that the capacity of 250 thousand M. c. f. does not arise merely by multiplying a single line capacity of 125 thousand M. c. f. by two at all, does it?

A. No, there is no relation there.



Q. So, as a matter of fact, this single line, in part, is accommodated to a capacity of 250 thousand M. c. f. per day, isn't it?

A. Not the single line.

Q. Not even in part?

A. The only thing it has a capacity of 250 million cubic feet a day is the combination of two lines with full power.

Q. Well, I asked you if your main transmission line was all looped and you said no.

A. Right.

Q. Does your main transmission line have a capacity [fol. 2902] of 250 thousand M. c. f. or is that capacity a total system capacity?

A. We have used the term indiscriminately. I think maybe you and I are drawing too fine a point as to what is the main line. Panhandle Eastern—

Q. (Interposing) Yes, I am wondering as to that. In other words, do you make up your 250 thousand M. c. f. capacity from more than one line?

A. Yes.

Q. You do. How many lines?

A. At the present time, that capacity is the capacity that goes with a single line plus a certain percentage of looping which has been accomplished to date together with ample powering and we, in our descriptions here, have referred to that as "the line."

Q. Now, I notice that on your various tests of capacity here you get variable figures, thus, according to your first method which you characterized as the volume method, you get for the year 1936 as percentage of unused capacity, 39.26.

For your second method, you get 44.5. For your third method you get 25.8. For your fourth method, 13.04, and for your fifth method, 21.05, all in terms of percent unused capacity.

Now, can you tell me of what particular use such wide [fol. 2903] variations are or, put it differently, what is the particular validity of any one method when you show another method which varies the percentage in wide latitude?

A. I have not attempted to defend one of these methods as against another. I have not attempted to translate the

results that you find here other than to state that, in my opinion, each one of the five methods shown constitutes a fair measure of the unused capacity of the system during the early periods before the pipe line had attained the load for which it had been designed.

Q. Do you mean that each method is equally defensible, is that right?

A. I cannot even say that. I merely say that we have here five different ways of doing the same thing.

Q. Now, Mr. Morton, are you familiar with the methods in general use in the gas business and in the power business for determining percent of unused capacity?

A. I was not aware that the art had developed to the point where you could say there [way] any method in general use.

Q. Did you know that in the power business, engineers generally computed it on the basis of relation of peak demand capacity?

A. I have some familiarity with that, yes.

Q. But you suggested other methods and excluded the simple relation of maximum demand capacity?

[fol. 2904] A. Yes, I made no such showing.

Q. Now, Mr. Morton, is your testimony concerning the time required to attain capacity output after completion of the pipe line, predicated upon speculative considerations or is it based upon the actual experience of the Panhandle Eastern Pipe Line Company?

A. I studied the performance and my study indicated to me that the actual experience of the company was such, during this loaded period, as to justify that period as a fair basis of comparison.

Q. Well, do you mean to offer this, that is, your testimony and your conclusion about it, as something predicated upon your experience with the company in the development of its business?—Isn't that so?

A. Yes, this is closely related to my experience with the business.

Q. Now, your claim, Mr. Morton, that based upon your knowledge of the company's experience that it is just and reasonable to allow, in the present calculation of rates, for costs of carrying unused capacity?

A. That question goes to the use to which this exhibit is to be put?

Q. Not at all, not at all. That goes to your own qualifications here.

A. I have attempted to show here five different ways [fol. 2905] of doing this job and as to the translation of the results into the determination of those things that we have previously talked about in this rate case, I have no opinion.

Q. I see. In other words, as to the ultimate propriety of that situation, its prudence or its imprudence; its necessity or its lack of necessity, you express no opinion other than the statement that it just happened?

A. What was the last word you said?

Q. Are you prepared, Mr. Morton, to vouch for the proposition that the failure to obtain capacity use within the time you have stated and as to which you have testified is a reasonably prudent and proper result or situation?

A. I have no opinion on that matter.

Q. You have no knowledge on that subject, have you?

A. No.

[fol. 2906] Q. And you do not want your testimony to be construed as relating in any way to the necessity of this time lag, its reasonableness, its prudence, at all, do you?

A. That is correct.

Mr. Goodman: I move that the testimony of the witness in relation to Exhibit 38, predicated a going value, going concern value or supplying basic data for going concern value, be stricken or that the proffer of the exhibit in evidence be rejected because, although the showing is made of a time-lag between investment and the attainment of capacity use and of taxes, interest, operating expenses, being incurred within the period of time lag, there is no testimony in the record which in any sense justifies as reasonable and proper that such a situation should exist and evidence is not entitled to reception, as such, unless there is some reasonable justification for the situation presented.

For all that appears, the circumstance may and the inferences would be the result of a misconceived venture. We

do not know. There is nothing in the witness' testimony or in any testimony in relation hereto that brings it down to the point that it was reasonable, it was prudent, it was necessary to incur this time lag of which he predicates and upon which he predicates an allowance in rate base for the calculation of rates.

Mr. Littman: If your Honor please, we would like to [fol. 2907] join in the motion made by Mr. Goodman primarily for two reasons.

First, because this entire exhibit represents an attempt to capitalize past operating expenses, past ad valorem taxes and past interest payments. None of these charges were ever capitalized on the books of the company as appears from the face of this exhibit.

Moreover, there has been no showing whatever and I think this is of the utmost importance, there has been no showing whatever that this so-called purported cost attributable to unused capacity was necessarily incurred.

There is no explanation [so] to why it was incurred. No connection whatever has been brought into this proceeding which would tend, in any manner, to link these figures to the issues before us in this proceeding which are, of course, the question of the reasonableness of the rates.

What caused this unused capacity, what brought it about, the circumstances surrounding it, all those questions are unanswered. The burden of making a showing with respect to this exhibit is certainly not upon our shoulders or upon the shoulders of the Intervenor.

The burden is clearly upon Panhandle Eastern to make some showing which would tend to justify the inclusion in capital of these past operating expenses. No such showing has been made and I, therefore, submit the motion to strike this exhibit and all testimony made in connection with this [fol. 2908] exhibit should be sustained.

[fol. 2916]

Cross-Examination

By Mr. Chamberlain:

[fol. 2928] O. W. MORTON, having been previously duly sworn, resumed the stand and testified as follows:

Cross-Examination (Continued)

[fol. 2931] Q. Mr. Morton, do you know that in 1930 a contract was entered into by which Columbia Gas and Electric Corporation agreed to purchase of Panhandle Eastern Pipe Line Company their excess capacity up to 20 million cubic feet a day at 18 cents per thousand for such period as they had the excess capacity and later to buy the gas at 26½ cents?

A. I never knew anything or heard anything about that.

Q. Did you know that a demand was made upon your company for a contract against a purchase contract by Missouri-Kansas Pipe Line Company seeking 20 million cubic feet of gas per day at 18 cents and that it was refused by your company?

A. I knew nothing of that.

[fol. 2932] Q. You have presented an exhibit here in which you are showing what you believe to be the cost of the unused capacity in the Panhandle Eastern Pipe Line from the beginning of service in 1932 up to the time when the capacity was fully sold in 1937, have you not?

A. Yes, that is correct.

[fol. 2933] Q. How did you come to prepare the exhibit?

A. Why, Mr. Biddison asked me if I would prepare for him the cost of carrying unused capacity on this pipe line.

Q. Then you did propose a method of determining going value for this case, did you not?

[fol. 2934] A. In the early stages of our defense in this rate case, we discussed going value and I made some figures, but it was decided that I did not know enough about going value to present the thing.

Q. Well, you understand that your exhibit is directed toward obtaining an allowance in the rate base, did you not?

A. I have heard Mr. Biddison's testimony as to the use he made of these figures and I believe that that is approximately the use to which he put it from what I have heard him present here on this witness stand.

Q. That is the use you expected to be made of it, wasn't it, when you prepared it?

A. Yes, I thought Mr. Biddison would use it. I cannot say in that particular connection, however.

[fol. 2935] Q. Let me ask you now to tell us — let me ask you first whether you ever made a study of rates for Fulton, Missouri?

A. I do not remember. I imagine that I did.

[fol. 2936] Q. I wish you would state whether your company refused to sell gas to Fulton, Missouri, and, if so, what their reason was?

A. This is just from memory. I am not an officer of the company and I do not know the policies, but I do not mind telling you that I think that there was a matter that went up to the Supreme Court involving service to Fulton.

Trial Examiner: You mean the Supreme Court of Missouri?

The Witness: I believe it went to the Supreme Court of the United States, involving service to Fulton, in which it was said that Panhandle Eastern had refused service to Fulton, Missouri, but I still do not recall why. I do not know why.

By Mr. Chamberlain:

Q. Now, you read accounts of that in the papers, Mr. [fol. 2937] Morton, did you not?

A. Yes, there were things in the paper about that.

Q. And Fulton had to appeal first to the Missouri Public Service Commission, did they not, to get gas?

A. I am not sure, but I think they did.

Q. Then the matter went through the courts to the Supreme Court of Missouri, did it not?

A. I believe so, yes.

Q. And your company was finally compelled to serve them gas, was it not?



A. As I recall, they were not compelled to. There was a settlement of the matter before it was finally decided by the Courts and, in [order] words, the parties got together and we proceeded to give them gas then.

Q. Now, about what time did you proceed to give them gas?

A. I cannot remember the date it started. I cannot remember.

Q. It was many years after they had made their application for gas, was it not?

A. Yes, it was.

Q. And after there was some change in the management of your company?

A. I do not recall whether there was any change in the management in the interim or not.

[fol. 2938] Q. What do you recall about Fayetteville, wasn't there a Fayette, Missouri, or Fayetteville?

. . . . .

The Witness: Fayette, Missouri.

. . . . .

Q. Now, Mr. Morton, don't you know it to be a fact that your company refused service to these municipalities, saying that it was their policy not to sell to municipal distributing agencies?

A. Now, I do not know that.

Q. And do you not know that that was the matter at issue in the litigation in respect to Fulton, Missouri?

A. Yes, I know that.

. . . . .

[fol. 2939] Q. Do you know of auditors of the Federal Trade Commission being in your offices for weeks gaining information for their examination?

A. I knew there were some auditors in our midst from a Federal agency or department, but I did not know which one.

[fol. 2940] Q. Did you not read, in your local papers, the results of the testimony taken in respect to your company and its relations with Columbia Gas and Electric Corporation.

A. Over the years, I have read all of that that has appeared in the newspapers on the subject, in our local papers, I mean.

Q. And did you not read the reports of the Federal Trade Commission which were in published form?

A. I do not recall.

[fol. 2941] Q. Did you ever hear that Columbia Gas and Electric Corporation and their officers, Mr. Gossler, Mr. Reynolds and Mr. Monroe claimed there was a territorial allocation of the State of Indiana, whereby Panhandle had agreed not to sell gas to Missouri-Kansas Pipe Line Company for use north of a line which would extend east and west across the State of Indiana at Terre Haute?

A. No, sir.

Q. Were you ever, at any time, called upon to make an estimate of the cost of service of gas prior to 1935 for any community in Indiana or Michigan north of a line which would extend east and west across the State from Terre Haute?

[fol. 2942] The Witness. Not to my knowledge.

Q. Now, did you know of a contract having been made late in 1931, for the service of gas to Columbia through Indiana Gas Transmission Company at the Indiana-Illinois State Line at 18 cents per thousand cubic feet?

A. Yes.

Q. You knew of that contract?

A. Yes, sir.

Q. Now, do I understand that you were not called upon to determine the cost of that service?

A. That is correct.

Q. That was determined by others than you?

A. Not by me, at any rate.

Q. Not by you. Now, do you know that Missouri-Kansas Pipe Line Company made a demand upon Panhandle Eastern for the service of gas at that point in 1931 and threat-

ened legal action against them if they would not sell it to them?

A. I know nothing of that.

Q. Did you not hear that Mr. Monroe said that he would not furnish it to them under any circumstances if they were to use it in Indianapolis?

A. I heard nothing like that.

Q. Were you ever called upon to make a study of the cost of service at Indianapolis?

[fol. 2943] A. Yes.

Q. When was that?

A. About two or three years ago.

Q. That was after 1935?

A. It was.

Q. And you were never called upon before that time?

A. I was not.

\* \* \* \* \*

[fol. 2945] Q. Now, what, if any, studies did you make which were formal in the early years of your employment and which were used in fixing rates during the early years, 1931, '32, '33 and '34?

[fol. 2946] A. I cannot recall any studies that were put up in a formal way and were used in fixing rates.

\* \* \* \* \*

[fol. 2947] Q. To try to get at the question a little more concretely, I call your attention to the fact that, in Illinois, you had a 40-cent city gate rate, did you not?

A. Very early, up to about 1933, as I recall it.

Q. Yes, I think that is right.

A. We had such a rate.

Q. Now, tell us how the gate rate of 40 cents for Illinois was determined and what part you had in that determination?

A. I had no part whatsoever in determining that rate, Mr. Chamberlain.

Q. That rate, then, was not based upon any cost study [fol. 2948] which you made which would indicate that that should be the rate, is that correct?

A. That is a correct statement.

Q. Now, let me ask if you did not read in the press dispatches in 1933 that the Illinois Commerce Commission

either annulled or refused to permit that rate to continue?

A. I do not recall that that is the circumstance surrounding the discontinuance of that rate, but I will go along with you to the extent that the rate was discontinued and probably on account of some objections that were made before the Illinois Commission, under whose jurisdiction we operated at that time.

Q. But your company maintained that gate rate until about 1933, did they not?

A. I think we had two gate rates until 1933, at which time we dropped the 40-cent one and, as I recall it now, the reason that was dropped was because the other one was cheaper and they preferred to take a newer rate which we had inaugurated in about 1931 or 1932.

[fol. 2949] Q. Now; you had a 40-cent rate at the Indiana-Illinois Line, did you not?

A. I do not recall that.

Q. You had an 18-cent rate, didn't you?

The Witness: I remember that there was a contract and I testified a few minutes ago that I had some knowledge, however hazy it may be, that there was a contract between Panhandle Eastern and Columbia interests under the terms of which gas, under certain circumstances and having a certain degree of interruptibility, was available at 18 cents at the Indiana-Illinois State Line.

[fol. 2950] It is my recollection that that same contract called for 26-cent gas on a firm basis. It is a long time ago and I never even reviewed these things before I came in here.

By Mr. Chamberlain:

Q. Now, tell us why your company did not sell gas to Lincoln, Illinois, for a period of years?

A. I do not know why the company did not sell gas to Lincoln.

Q. You have no recollection whatever about the difficulty at Lincoln, Illinois?

A. Now, I have some recollection that there was some difficulty in connection with inaugurating natural gas service at Lincoln.

Q. And you know, do you not, that the company distributing gas at Lincoln offered to pay the full expense of the lateral line to serve Lincoln and yet they refused it? [fol. 2951]

A. No, sir, I do not know that.

Q. I wish you would search your memory about that.

A. No, I do not know that.

Q. How close is your main transmission line to the City of St. Louis?

A. I believe we go within 80 miles of St. Louis.

Q. And were you aware of the inquiry made by a special natural gas committee of the Board of Aldermen of the City of St. Louis early in 1935 in which they were making an inquiry into the question of obtaining adequate supply of natural gas for service in the City?

A. Yes, sir.

Q. And did you know that Mr. Bay was there as a witness? A. Yes, sir.

Q. And did you know that they made an application to him for a supply of gas which he declined to furnish?

A. I know that an application was made or at least they were discussing the subject. I do not know that the service was refused.

Q. You never made a connection with St. Louis, I take it? A. No, we did not.

Q. And the territory was then served by Mississippi River Fuel Corporation?

A. Another natural gas company, yes.

[fol. 2952] Q. Did you hear of the offer that was made by the Phillips Petroleum Company to join with Mr. McNabb in building a line to connect your transmission line with St. Louis and asking for a supply of gas?

A. I remember that there was something like that in the wind at that time.

Q. Your company never made a connection?

A. No, we never made a connection.

Q. Were you ever called upon to make a study for the cost of your service to Emporia, Kansas?

A. I do not recall having been called upon to do so.

Q. Do you recall a demand by Emporia in 1932 for gas service? A. I do not.

Q. You do not recall its refusal? A. I do not.

Q. Were you aware of the filing of an antitrust suit by the United States Government against the Columbia Gas and Electric Corporation and certain of their officers, including Mr. Bay, in March of 1935?

A. Yes, sir.

Q. And did you know the charges that were made in [fol. 2953] that action with respect to stifling competition and attempting to wreck Panhandle Eastern so that its securities might be bought in by the Columbia people?

A. If the newspapers stated those things at the time, then I was aware of all of them.

Q. You knew Mr. Bay was a defendant in that case?

A. Yes, I did.

Q. Did you know later on it was settled? A. Yes.

Q. Did you know that Mr. Bay and, by the way, Mr. Bay was Vice-President of your company, was he not?

A. He was.

Q. Did you know that the receivers of Missouri-Kansas Pipe Line Company brought an action for some \$180,000,000 [—] Columbia Gas and Electric Corporation, certain of its officers and Mr. Bay on a charge of having conspired to prevent the sale of gas by Panhandle Eastern and to prevent competition with the Columbia Company in Ohio?

The Witness: In general, I am familiar with all of that.

[fol. 2954] Q. Did you know of a request of your company for gas for Detroit by Mr. Reeser?

A. No, sir.

Q. In 1934? A. I never knew of him.

Q. Didn't you know of his meeting Mr. Neuner in Kansas City, seeking a supply of gas for Detroit?

A. I knew nothing of it.

Q. Do you know who he is? A. No, sir.

Q. Did you know of a request by Benedum Trees Company of Pittsburgh for gas for service in Detroit?

A. No, sir.



Q. Do you know anything of an application of J. W. Rice for service of gas to Detroit? A. No, sir.

Q. Do you know of any effort whatsoever that was made by officers of Panhandle Eastern to obtain a Detroit market prior to 1935?

A. I do not.

[fol. 2956] Mr. Wheat: Mr. Examiner, on reviewing Exhibit 38, we have noted that the note at the bottom of Page 1 is erroneously stated. The note now reads:

"Includes only operating expenses that vary with M.e.f. sold."

I am informed that it should read:

"Excludes operating expenses that vary with M.e.f. sold."

I would like to ask Mr. Morton if that is true.

The Witness: That is correct.

Trial Examiner: The original and official exhibit is not in the room at this time, so it will be necessary for us to remember this correction.

By Mr. Chamberlain:

[fol. 2957] Q. Just one or two questions more, referring to Exhibit 38, Mr. Morton, I take it that you have deducted from your investment the investment in the Argos line and the Local Area, together with a portion of the line which was used for transportation?

A. That is correct.

Q. And by transportation, do you mean the transportation for others?

A. Yes, specifically gas transported for Northern Natural Gas Company.

Q. Now, in attempting to arrive at the value of the unused portion or the unused capacity, did you make any attempt to reconcile that with what will be a fair return upon the property?

A. Fair return did not enter into this study.

[fol. 2959]. Trial Examiner: In order that the record may be complete, I wonder if it would not be well, through this witness or some other witness or by statement of counsel, to include in this record some definition of the phrase "load factor" as used by this witness and at other points in the record already?

. . . . .

The Witness: Load factor, as generally used, means the ratio of the maximum day to the average.

When we say "annual load factor", we mean the ratio between the maximum day and the average day for 365 days.

When we say "monthly load factor", we mean the ratio of the maximum day for that month as compared to the [fol. 2960] average day for that month.

I might add that it is a rather tricky term and that we should be pretty cautious about using it. It would be much better, in my opinion, if we would just say the relation or the ratio of the maximum day to the average day. It is more understandable to everyone, I believe.

Trial Examiner: When you use the phrase "load factor" with a prefix of a definite percentage, what significance does that indicate?

For instance, a 70-percent load factor?

The Witness: That means that the average day is 70 percent of the maximum day.

For example, if we sold one million cubic feet on the maximum day, and we sold an average of 700 thousand cubic feet on the average day, then the load factor would be 700 divided by a thousand, which is equal to .70 or, as we say, 70 percent.

It merely describes the relation between the average day to the maximum day.

Trial Examiner: Thank you.

By Mr. Chamberlain:

. . . . .

Q. Now, I would suggest that, for the benefit of the [fol. 2961] record, Mr. Morton define what load factor is when applied to a contract such as that of the Pan-handle with the Detroit City Gas Company?

A. That is just what I had in mind when I said that it is a tricky term.

Load factor, in my opinion, should not be used except just as I have stated it a while ago so very carefully. If we tried to talk about the load factor with relation to the Detroit contract or the load factor with relation to some other complicated situation, then we are really getting away from load factor and we are talking about something else entirely.

Load factor can only be just what I have said.

Now, we have misused it, all of us, so much that it is not uncommon at all for any of us to refer to the load factor erroneously, particularly in connection with the Detroit contract, but I think we could bring out the thing you have in mind much better by not tying load factor at all to the Detroit contract.

Q. Well, the contract itself provides for a load factor, does it not, provides a rate based upon load factor?

A. The contract provides a rate that fluctuates with the load factor of the base load as defined in that contract.

[fol. 2962] Q. In other words, the load factor, as used, with respect to that contract, means the ratio of the average day of the year to the maximum day within the month of December, January, February and March, does it not?

A. That is a correct statement.

[fol. 2963] Q. Let me suggest one more thing. You have in effect what is known as the 3 cent-4 cent rate for good load factor gas and bad load factor gas, do you not?

A. Yes, we have what is known as a 3- and 4-cent rate.

Trial Examiner: I think Mr. Chamberlain used the phrases "good load factor" and "bad load factor",—did you not?

Mr. Chamberlain: Yes, I did.

Trial Examiner: I wonder if those phrases might not need defining?

The Witness: Now, if we want to talk about good load factor and bad load factor, which are relative terms as applied to the 3- and 4-cent rate, so called 3- and 4-cent [fol. 2964] rate, why, perhaps this will clear it up if I would say that we have offered in Indiana a rate which we call the 3 and the 4-cent rate and the 3-cent rate applies to all gas used during the months of June, July, August and September.

The 3-cent rate applies to the average quantity consumed during those four months for the balance of the eight months of the year and that gas we call "good load factor gas" because the consumption is fairly regular throughout the year.

It is a purely relative term. Then the remainder of the gas which is not sold at 3 cents is sold at 4 cents and that is the balance or the remainder of the gas and roughly, but only roughly, represents the house heating sales which are high in winter and low in summer and which, therefore, have a poor load factor.

By Mr. Chamberlain:

Q. Well, the gas sold under your schedule of rates for Indiana which is, as you say, a 3-cent-4 cent rate, is actually sold on a load factor basis, is it not?

A. Only in so far as the procedure I have described could be called a load factor basis.

Q. The good load factor gas comprises the gas sold in the four summer months and an equal amount sold in each of the eight other months?

A. That is right.

Q. In other words, your good load factor gas is 100 [fol. 2965] percent load factor, is it not?

A. No, it is not because, as I have defined load factor, it was, as I said, the ratio of the maximum day to the average day.

Q. Yes, but if you will limit your consideration to the

equal take for each day of the year—let me change that—does it not comprehend that the monthly take of each month of the year shall be uniform in so far as the 3-cent portion applies?

A. Approximately, and I think maybe we can get this straightened out by my saying that the approximate load factor of the 3-cent gas is 100 percent.

Q. Then the rate of 4 cents applies to all gas which is [fol. 2966] taken at less than approximately 100 percent load factor?

A. Yes.

Trial Examiner: While we have these definitions grouped, are there other technical terms, Mr. Morton, that are involved in the various contracts that will be considered in this hearing?

I have in mind one in particular and that is "interruptible gas" or "interruptible service."

Perhaps you have others, and I think that this is a good time to cover by definition the technical meaning of such terms.

The Witness: I cannot think of any except the one that you have mentioned, Mr. Examiner, and the term "interruptible" as it is used is, I might say, a loose term.

It is rather difficult of definition. I could only define it in a most general way. We think of "interruptible" as being gas, usually taken by industry, which can be interrupted in favor of the firm customers or domestic customers when the supply becomes limited through some cause or other.

[fol. 2991] By Mr. Chamberlain:

Q. Mr. Morton, you deem it fundamental, then, in your business, that the increased sales would produce lower prices, or lower costs for your company?

[fol. 2992] A. That depends upon the load factor characteristics of the proposed loads that you speak of.

Q. Then, as your company increased its sales, would you expect a gradual reduction of revenue or increase in

A. Our unit rate has been about the same, year after year.

Q. That is, your average revenues?

A. Per M. c. f..

Q. What has been the fact as to your load factor? Has that improved or decreased?

A. I don't know which way it has gone, up or [down.]

Q. Well, it is certain that you have increased your sales every year since 1933, is it not?

A. That is correct.

Q. And is it not true that the average revenues which you have collected from the public have increased every year?

A. Which we have what?

Q. Average revenues per M. c. f. which you have collected from the public have increased every year, have they not?

A. The average rate has remained fairly constant. It may have increased slightly.

Q. Would you look at Exhibit 58 on Page 1 and refresh your recollection as to the average amount per M. c. f. received by your company since 1933?

A. In 1933 it was 21.08 according to this schedule, in [fol. 2993] 1934, 21.08; in 1935, 21.10; in 1936, 21.74; in 1937, 22.58; in 1938, 23.17; in 1939, 23.28; and in 1940, 23.35.

Q. Now, there has been an increase every year there since 1934, has there not, and that was the same as 1933?

A. There has been a slight increase.

. . . . .

Q. What was the amount of sales in 1933?

A. Eleven billion plus.

Q. And in 1940 it was how much?

A. Fifty-six billion.

Q. And has there been a fairly uniform increase in sales during each of the intermediate years?

A. There has been an increase.

. . . . .

Q. Now, one other question as to the sales in Indiana. [fol. 2994] Under the contract you mentioned, made at



the close of 1931, did you have more than one customer in Indiana for the years 1932, 1933, 1934 and 1935?

A. No.

Q. And who was that customer?

The Witness: Indiana Gas Transmission Corporation.

Q. And that was a subsidiary of Columbia Oil and Gasoline Corporation?

A. Yes, sir.

Q. Now, will you just make a quick computation and see if it was not a set 18 cent rate there for 1932, 1933, 1934 and 1935, which was the time prior to the filing of the act [fol. 2995] tion by the United States Government in the anti-trust case?

The Witness: It appears to me from an inspection of this record that the average rate paid during those years, 1932 to 1935, inclusive, for sales to Indiana, was 18 cents per M. c. f.

Q. Now, let me ask you whether the sales to Michigan Gas Transmission Corporation are not included under the Michigan sales in Exhibit 59?

A. In Exhibit 59 it appears to me that the sales shown under the heading "Michigan" include only those sales made to Michigan Consolidated Gas Company and the Ann Arbor folks.

Q. Yes. Then, such sales as Michigan Gas Transmission makes in Indiana would be found in Column 1 under the title "Indiana"?

[fol. 2996] The Witness: This is Mr. Watkins' Exhibit No. 59, and it appears from an examination of it by the witness that the figures you referred to were sales that were made by Panhandle Eastern Pipe Line Company to Michigan Gas Transmission Corporation for resale by the latter company in the State of Indiana.

Q. Now, I wish you would make a quick computation as to the average revenues received for gas sales in Indiana which includes that sold to Indiana Gas Distribution Corporation and Michigan Gas Transmission Corporation for the year 1939.

A. On inspection of this Exhibit 59, it appears to me that the rate was approximately 20 cents plus.

[fol. 2997] Q. Then, will you state the average revenue received by your company from Michigan Gas Transmission Corporation for resale in Indiana for the year 1939?

[fol. 2998] A. It appears to be in excess of 20 cents per M. c. f.

Q. But less than 21?

A. Yes.

Q. What was the average revenue received for 1941 for the same thing?

A. Approximately 21.1 cents.

Q. And the Michigan Gas Transmission Corporation is a wholly-owned subsidiary of Columbia Gas and Electric Corporation?

A. I understand that it is.

Q. And you understand that rate to be for gas at the Indiana-Illinois State Line?

Mr. Chamberlain: I am asking for the average revenue received for M. c. f. of gas from the wholly-owned subsidiary of Columbia at the Indiana-Illinois State Line.

I understood you to say about 21.1 cents.

The Witness: From an inspection of Mr. Watkins' Exhibit 59, and dividing the revenue received by the M. c. f. sold, the unit rates which I have testified to appear to be the correct ones.

[fol. 3001] O. W. MORTON, the witness upon the stand prior to the noon recess, resumed the stand and testified further as follows:

[fol. 3003] Cross-Examination (Continued)

By Mr. Littman:

Q. Mr. Morton, do you have before you Exhibit No. 38?

[fol. 3004] A. Yes, sir.

Q. When did you first commence your work on Exhibit 38?

A. I first commenced work on the general subject that is covered here in Exhibit 38 in July.

Q. Of 1941?

A. Of 1941.

Q. Who requested that you commence the making of the study that eventually resulted in Exhibit 38?

A. The first information I had that there would be such an exhibit came in a meeting which was held, and at that meeting there were present all of the key men that you have known in this rate hearing, Mr. Neuner, Mr. Creveling, Mr. Wheat, Mr. Culton, Mr. Biddison and a few others.

That was in a meeting about July 25, 1941.

Q. It was at that meeting that it was decided that you were to commence your studies, is that correct?

A. Yes, sir.

Q. What instructions did you receive with respect to [fol. 3005] the making of this study?

A. At this original meeting about the only instruction I received was to post myself on the subject matter, to look into it and give it some thought and report back.

Q. What do you mean by the term "subject matter" as you used it in your last answer?

A. At that time, we were using the term "going value" or "going concern value" and that is the general subject matter that I was asked to look into at that time.

Q. That is, the term "going value" or "going concern value" was used during this conference to which you just alluded, was it not?

A. Yes.

Q. How about other meetings? Did you have other meetings with these gentlemen?

A. Yes, later on we had other meetings at which we discussed the thing farther.

[fol. 3006] Q. And what instructions did you receive at those meetings?

A. Well, it is difficult to state instructions received at each of the meetings but, after a series of them and after we had discussed what I knew about the subject, why, it was decided that possibly I had better not work up going value for the company at all.

It was decided that maybe I had better talk to Mr. Biddison on the subject and he seemed to have a better grasp of what was wanted and so I stopped working on my own initiative.

Q. And when was that?

A. That must have been two weeks after the date that I started, say, maybe early August.

Q. And it was about that time that you then had a talk with Mr. Biddison about what you were to do?

A. I might say that it was not the first talk but it was about that time that it was definitely decided by the management that possibly my general information on this subject was not as good as it should be and that, therefore, I had best talk to Mr. Biddison about it.

Q. Now, you had prepared some studies up to the time that this decision was made, had you not?

[fol. 3007] A. I had done some work. I do not know whether you would call them studies or not.

Q. Were they in writing?

Did you finish your answer, Mr. Morton? I am sorry to have interrupted you.

A. Yes, I had finished.

Yes, I had made some rough calculations and these I had discussed with the management from those rough

calculations and I think it was at that time that it was decided that maybe I had better talk to Mr. Biddison.

Q. Did those rough calculations look anything at all like what you now have in Exhibit 38? Were they similar studies?

A. Well, yes, they were along the same general line.

Q. Well, at any rate, it was decided, as you stated, that you were to carry on your work under the supervision or direction of Mr. Biddison, is that generally correct?

A. In general, that is true.

Q. Now, what instructions did you receive from Mr. Biddison? I am now speaking about the time that or shortly after it was decided that Mr. Biddison was to take charge of this subject?

A. Well, I showed Mr. Biddison what my ideas were, and he told me he thought that, in general, I was getting along pretty well and he offered some suggestions, told me how he thought it should be done and his instructions [fol. 3008] were not specific but, in general, he outlined the five methods that we show here in Exhibit 38.

. . . . .

Q. I am not asking you to repeat word for word, Mr. Morton; that would, of course, be impossible, but I want you to give us your best recollection, generally, of what he said and what you said about the five methods.

A. Well, I cannot tell you just how Mr. Biddison put it. We had a conference and, as I say, he looked over what I had done and he offered suggestions as to what should be done.

I remember specifically that we were talking about how to make eliminations. I had not cleared up my mind as to how some of these things should be eliminated from this study, some of the things that are not involved in the study, how we would eliminate them from our figures and he offered some advice in that connection but, other than that, [fol. 3009] I do not believe I can reproduce our conversation.

Q. Well, was the term "going concern value" or "going value" mentioned in your conversation with Mr. Biddison?

A. I do not recall whether he used the words "going concern value" or "going value." He may have used the

term but, by that time, we were using a term, in so far as my work was concerned here, as the cost of carrying unused capacity on the line, on the main line. I know that he did use that term.

Q. But you are not sure whether he used the term "going value" or "going concern value"?

A. No, I do not know whether he applied that term or not to what we were doing.

Q. When was the decision made as to who was going to testify with respect to Exhibit 38, and with respect to any figures to be derived from Exhibit 38?

A. Well, I have named the date when we started and I have named the date when Mr. Biddison and I had our talk and undoubtedly, between those two dates, July 25 when I was given the general rough assignment and August, the early part of August, 8th, 9th, 10th, somewhere along in there, it was decided that Mr. Biddison was the man that knew more about this than I did and, therefore, should be the one to present the matter.

Q. Well, I am afraid you are going to have to be a little more specific.

Will you please turn to Page 1 of Exhibit 38? Looking at [fol. 3010] the figure shown in Line 2 called "investment total," did Mr. Biddison tell you to get those figures and put them in an exhibit?

A. No.

Q. You did that on your own responsibility, so to speak?

A. Yes.

Q. Would the same answer apply to the figures shown in Line 4?

A. Yes.

Q. Would the same answer apply to all of the rest of the figures shown on that page?

A. Yes, these are all basic statistics used in developing this mathematical study of mine and I assembled those figures after I had received my initial instruction from the company to look into this matter.

Q. Did Mr. Biddison instruct you to use the figures precisely as you have used them on Page 1 of Exhibit 38?

A. If you mean by that, did Mr. Biddison outline step by step what I was to do, I will say no, that, in general, he



indicated that this method was satisfactory and offered suggestions in the development of the figures.

Q. He did not tell you precisely what figure to use for this, that, or the other item that appears on Page 1 of Exhibit 38?

A. No, he allowed me quite a bit of lee-way. He asked [fol. 3011] me to develop this story here and gave me general advice on its development.

[fol. 3012] Q. But the figures that you used were submitted to Mr. Biddison for his approval, is that correct?

A. That is correct.

Q. And the figures finally used on Page 1 of Exhibit 38 did meet with his approval?

A. Absolutely.

Q. Were any of the figures originally submitted by [fol. 3013] you to Mr. Biddison for Page 1 of Exhibit 38 changed by reason of any suggestion of Mr. Biddison's?

A. At some times, there was some change that Mr. Biddison suggested.

Q. Well then, were the figures changed by you in accordance with his expressed desire in the matter?

A. They were either changed by me or else set up by me in accordance with his expressed desire. I cannot recall whether some figure at some stage of the game was prepared and then handed to Mr. Biddison and then he suggested a change and handed it back to me, or whether I gave him a general outline of what I was doing and he suggested a method of doing it.

Q. Well, when you completed Page 1 of Exhibit 38 at last and then had it reproduced as it now appears, I take it you and Mr. Biddison were in hearty agreement as to the figures appearing on that page?

A. Yes, sir.

Q. Now, let's turn to Page 2 of Exhibit 38. Here you show "Five Different Methods of Calculating Interest, Ad Valorem Taxes and Operating Expense"—should not that be "Expenses," plural, or doesn't it make any difference? [fol. 3014] A. I do not know that there is much choice. You can make it either way, as far as I am concerned.

Q. (Continuing) "And Operating Expense Attributable to Unused Capacity."

Now, who conceived these five methods?

A. These five methods did not just spring out of one man's head. The generalissimo, the motivating men behind these five methods is Mr. Biddison, but these methods were discussed with me, I think Mr. Neuner, they were discussed with him and so you could not say that they sprung into being from out of my head but I do think, as I say, the motivating force behind them is Mr. Biddison.

[fol. 3015] Q. What about the last two shown on Page 2 from Lines 42 to 51, inclusive?

A. You probably recognize those as being gotten up by somebody who had read the Chicago Case. I read the testimony on the Chicago Case and those two methods are pretty close to the two that you may find in that other.

Mr. Gorman: Is that the Chicago District Electric Generating Case?

The Witness: No.

Mr. Gorman: It is Natural Gas Pipe Line of America?

The Witness: Natural Gas Pipe Line, yes.

By Mr. Littman:

Q. Who told you to read that case and submit the latter two methods?

A. As I said before, we had what I choose to call a council of war about July 25 and at that council of war the management outlined the part that each would play in this as they saw it at that time, subject to revision, of course, and it was at that time I was given the assignment of looking into this general subject and finding out what I could about it and it was from instructions received at that meeting that my reading of that Chicago Case developed.

[fol. 3016] Q. Well, you recognized, did you not, while you were in the course of preparing Exhibit 38, that it was to be used in this proceeding as a basis for a claim for going concern value?

A. At one time, I thought that was what it was but, as I say, I apparently was not an expert at that thing and so they figured they had better turn it over to somebody else that knew more about it.

I suspected, or rather I knew, what I was doing here would be used as one of the elements of so-called "going value."

Q. You prepared this study for the purpose of furnishing the data to Mr. Biddison which was to form a basis of his testimony on that element of going concern value?

A. Yes.

Q. Of course, you said you read the Chicago Case rather early in your work in this connection, did you not?

A. Yes, I did.

Q. And the Court in that case did use, I believe, the [fol. 3017] term "going value" or "going concern value", did it not?

A. I believe that is what they called it when they presented it in that case.

Q. So that you were not in the dark on the purpose; generally, to which this exhibit was to be put?

A. That is correct.

Q. As a matter of fact, Mr. Morton, in order to make an intelligent study on the subject at all, you would want to know the purpose to which the exhibit was going to be put, wouldn't you?

A. Yes.

Q. Now, as I understand your Exhibit No. 38, you have undertaken to compute the interest, ad valorem taxes and operating expenses attributable to unused capacity by five different methods, is that correct?

A. That is it.

Q. And those five different methods and the conclusions with respect to each of those five different methods appear, do they not, on Page 2 of Exhibit 38, in Column G?

A. That is correct.

Q. Now, under the first method, you arrived at the conclusion that the amount of interest, ad valorem taxes and operating expenses attributable to unused capacity was \$6,465,590?

A. Yes, sir.

Q. And by the second method, \$6,680,962, is that correct? [fol. 3018]

A. Yes, sir.

Q. And so on to the bottom of Column G?

A. Yes, sir.

Q. Now, without going into detail at this time, is there any amount included in any of the figures shown in Column G, other than (1) past operating expenses; (2) past interest, and (3) past ad valorem taxes?

A. I do not think there is.

Q. In other words, my statement to the effect that the amounts shown in Column G include only those three types of items is correct?

A. That is correct.

Q. They do not include a dollar of any capital expenditure, do they?

A. That is correct.

Q. And it follows, does it not, naturally, that the company has never, itself, capitalized any of the amounts of any part of the amounts shown in Column G on Page 2 of Exhibit 38?

A. I am not sure that in our bookkeeping procedure at some stage of our development or at some time during all of these years, I am not sure that some of these dollars were not accounted for by the accountants as capital or charged to capital investment, I believe is the term.

Q. If there are such instances, would they be rather [fol. 3019] minor, in your opinion?

A. I hesitate to answer that in either way because of this sort of thing that is running through my mind, and you can appreciate it.

I do know, from hearsay, I do not know it but I understand that in the early days of this company everything was capitalized.

Mr. Culton: May I remind you this first column only starts with April 1, 1932, and that was the date of the capitalization.

We concede that your question is correct, Mr. Littman, from the company's standpoint. We concede that the answer to your question should be yes.

Mr. Littman: Yes, Mr. Culton. I am earnestly endeavoring—

Mr. Culton: (Interposing) I knew you were, that is why I said what I did.

Mr. Littman: (Continuing)—To ascertain that my understanding of these figures is correct.

Mr. Culton: We are willing to stipulate that April 1, 1932, was the date of capitalization and is the time they capitalized for business operation.

Mr. Littman: I can appreciate the witness' caution with respect to the figures back in the early years. We are not concerned here with those.

[fol. 3020] The Witness: That is right.

By Mr. Littman:

Q. What do you mean by the term "attributable to unused capacity"?

A. That is just my choice of words, Mr. Littman. I believe that you can as easily say, "operating expense incurred on account of" or rather, to make the complete statement—"five different methods of calculating interest, ad valorem taxes and operating expense incurred on account of or as a result of there being in this system in the early days some unused capacity."

Q. And I take it that it is your testimony that the amounts shown in Column G of Exhibit 38 represent the interest, ad valorem taxes and operating expenses properly attributable to unused capacity?

A. Those are results that come about from an engineering calculation. When you say "properly attributable to unused capacity", I think that you have asked the witness to go beyond the exhibit here.

They are merely the figures that result from an engineering calculation of these things, as I see them.

Q. Mr. Morton, if Column G includes expenses, for instance, that are not properly attributable to unused capacity, they should be excluded, should they not?

A. Well now, if you are asking me whether I think the [fol. 3021] figures that have been submitted by Mr. Bidson are properly attributable to unused capacity, I do not believe I should attempt to answer that.

Maybe we can get on better if I just tell you that those are my calculations over there (indicating), on the book of rules as laid down here which are plainly stated

of the operating expense, ad valorem taxes and interest attributable to unused capacity.

Q. You are then not willing to testify, Mr. Morton, that the operating expenses, interest and ad valorem taxes included in Column G are properly attributable to unused capacity?

A. What is "properly"?

Q. What do you understand the word "properly" to mean or "proper" to mean?

A. Isn't it enough, Mr. Littman, when I tell you that that, in my opinion, represents the interest, ad valorem taxes, operating expense attributable to unused capacity?

Q. Attributable to such an extent that they should be included for purposes of this proceeding?

A. Now, again, you are asking me to go beyond the story I have here.

Q. Well, in your opinion, are these expenses, ad valorem taxes and interest amounts which are included in Column G all attributable to unused capacity?

A. Yes.

[fol. 3022] Q. And I take it by that answer you mean that they all have something to do with and have a direct relationship to the unused capacity of the system in the periods shown by you in Exhibit 38, of course?

A. Yes, that is true.

Q. Now, you used the term "unused capacity". To what are you referring when you use the term "unused capacity", the entire Panhandle Eastern Pipe Line system or some part of it or what?

A. I am referring to that capacity that was built in the main line of the Panhandle Eastern Pipe Line Company and was there prior to the time the line became loaded to a degree somewhat approximating that for which it was designed.

Q. You are a rate engineer, are you not, Mr. Morton?

A. Yes, I am.

Q. In your opinion as a rate engineer, should the amounts shown in Column G under any one or under any combination of the five methods, in your opinion, be included in a rate base for purposes of determining reasonable rates?



A. I have no opinion about that.

Q. So that we may have no mistake about this, I want to make certain that my understanding is correct, that, in your judgment, every dollar shown in Column G has a relationship to, and a connection with, the unused capacity of the Panhandle Eastern Pipe Line system for the [fol. 3023] period shown in your exhibit?

A. If you add the words "main line", the answer is "yes."

Q. I am perfectly willing to add the words "main line".

Now, in order that we may make certain of the mechanics of your exhibit, I am correct in stating, am I not, that the amounts shown in Column G are parts of the larger amounts of interest, ad valorem taxes and operating expenses which are shown at the foot of Page 1 in Line 26?

A. They are.

Q. That is to say, if you added up all of the figures shown in Line 26 of Exhibit 38 at the bottom of Page 1, you would then have all of the interest, ad valorem taxes and operating expenses for the 4  $\frac{1}{2}$  year period from April 1, 1932, to September 30, 1936, inclusive, with some minor exceptions which are shown clearly on your Page 1?

A. I believe that is true.

Q. You appreciate that I am trying to get the philosophy of this exhibit rather than to bog down the record with details at the moment, Mr. Morton.

A. All right.

Q. According to my calculations—you correct me later if you wish; if I should be wrong—the total amount shown in Line 26, if you added all the items, would come to \$9,793,173. Is that your general understanding of it?

[fol. 3024] A. Were you adding the sum of those figures shown on Line 26?

Q. Yes, sir. A. All right.

Q. Now, your figures shown in Column G represent an allocation or a portion of that \$9,793,000 figure which I just read, based upon a percentage of so-called unused capacity in the years shown, is it not?

A. I believe that is correct.

Q. Generally, and omitting details, if the unused capacity by one of your methods were to be over the 4  $\frac{1}{2}$

year period, let us say, 50 percent, then you would simply take 50 percent of the \$9,793,000 figure and transfer it over to Column G, is that generally the situation?

A. That is generally so.

Q. I am not holding you strictly to these percentages. They are assumptions purely for the purpose of short-cutting the method and getting it on the record.

A. All right.

Q. Now, were the amounts of interest, taxes and operating expenses which are shown in Exhibit 38 incurred by Panhandle Eastern Pipe Line Company and Illinois Natural Gas Company only?

A. The title of this indicates that it is Panhandle Eastern Pipe Line Company and subsidiary companies.

[fol. 3025] Q. Of course, we have had some difficulty with that before, Mr. Morton, so I would appreciate it if you would tell us what other companies are included.

A. Yes. Some figures from the Central Distributing Company undoubtedly are in there.

Some figures from the Texas Interstate Company are undoubtedly in there because we see here, from the title, that we have tackled this from the standpoint of Panhandle Eastern Pipe Line Company and subsidiary companies.

I might say the amount is very small from any of those other companies, aside from Panhandle Eastern and Illinois Natural Gas Company, which, at that time, was Panhandle Illinois Pipe Line Company.

Q. Now, did you mention Central Distributing Company? A. Yes, I did.

Q. When was that company incorporated?

A. Central Distributing Company is only three or four years old, but its predecessor was the Central States Gas Utilities Company and that was one of the subsidiaries of Panhandle Eastern, since its beginning, as I recall, since very early days.

Q. When was Central Distributing Company dissolved?

A. I believe it was July 1, 1937—correction—I believe the Central States Gas Utilities Company became the Central Distributing Company on July 1, 1937 or 1938.

[fol. 3026] Q. Mr. Morton, did you want to make a statement with respect to unused capacity or your definition of that term?

A. Yes. During the recess it was called to my attention that it sounded as though I did not feel that the figures shown in Column G, Page 2 of Exhibit 38 were properly attributable to unused capacity.

I understood the question to be whether or not these figures were properly includable in the rate base and I did not wish to testify as to the propriety of their inclusion in the rate base but I did, however, intend to convey the idea that I felt they were properly attributable to unused capacity.

Q. Have you ever used the figures shown in Exhibit 38 or similar figures in preparing rate schedules for the company?

A. No.

Q. Just before the recess, we were discussing the names of the subsidiary companies and the subsidiary companies themselves which were included in Exhibit 38 or, perhaps, [fol. 3027] stated another way, we were discussing the subsidiary companies of Panhandle Eastern Pipe Line Company whose operating expenses, taxes and interest were included in the figure shown in Exhibit 38.

I would like at this time, for the purpose of facilitating this cross-examination, to have marked for identification with the next exhibit number a document submitted to Commission's counsel by Mr. Watkins in response to an inquiry addressed to Mr. Watkins when he was on the stand in direct examination.

This exhibit is entitled, "Panhandle Eastern Pipe Line Company and subsidiary companies—table to subsidiary companies of Panhandle Eastern Pipe Line Company."

Attached to this exhibit are the following schedules which I would like to have marked as Schedules 2 and 3, respectively, and to have the first page of the exhibit marked as Schedule 1.

I will read the title on the next two schedules. Schedule 2 has the following heading, "Subsidiary Companies of Panhandle Eastern Pipe Line Company Included with

Panhandle Eastern Pipe Line Company in Consolidation; Balance Sheet Per Books, Earned Surplus Per Books, Capital Surplus Per Books—Gas Plant"; and Schedule 3 headed as follows: "Subsidiary Companies of Panhandle Eastern Pipe Line Company Included with Panhandle Eastern Pipe Line Company in Consolidation Statement of Gas Produced."

I will ask, Mr. Examiner, that this exhibit be given a [fol. 3028] number and that the three pages be marked Schedules 1, 2, and 3.

(The Document Referred to was Marked Exhibit No. 112 for Identification.)

By Mr. Littman:

Q. Now, on the first page of Exhibit 112, Mr. Morton, which is called Schedule 1, Mr. Watkins shows the names of subsidiary companies, their dates of incorporation, and their dates of dissolution.

Now, would you mind reading into the record the names, date of incorporation and dates of dissolution of those subsidiaries of Panhandle Eastern Pipe Line Company whose interest, ad valorem taxes and operating expenses are included in your Exhibit 38?

A. This study has been prepared on a consolidated basis—

Q. (Interposing) By "this study", you mean Exhibit 38?

[fol. 3029] A. Yes. Exhibit 38 has been prepared on a consolidated basis for convenience and such of these companies as were existing at the date shown in the studies were included.

Q. And those dates included in the studies are April 1, 1932 to September 30, 1936, as shown in Columns A to E, inclusive, on Page 1 of Exhibit 38?

A. Correct.

Q. Well now, with that statement, would you mind reading the names of those companies which you believe to be included in your study in Exhibit 38?

A. I believe the following companies' statistics are included in Exhibit 38:

Central Distributing Company;

Central Pipe Line Company;

Central States Gas Utilities Company;

Illinois Natural Gas Company;

Macon Gas & Electric Light Company;

Missouri-Kansas Gas Company;

Panhandle Illinois Pipe Line Company;

Texas Interstate Pipe Line Company.

Q. Now, the dates of incorporation of each of those companies and the dates of dissolution of each of those companies appears in Exhibit 112, but I think, at this point, it might be well to read those dates into the record for each of those companies so that we may know what [fol. 3030] years' figures are included in your Exhibit 38.

A. The date of incorporation of the companies:

Central Distributing Company—November 17, 1934;

Central Pipe Line Company—August 25, 1933;

Central States Gas Utilities—August 15, 1928;

Illinois Natural Gas Company—

I would like to correct the record to the extent that I do not believe any Illinois Natural Gas Company figures appear in it, since it was not incorporated until 1938.

Q. Yes, that would be true, and that would naturally follow, wouldn't it, because your study does not go beyond September 30, 1936, in so far as amounts attributable to unused capacity are concerned, is that correct?

A. Correct.

And the dates of incorporation:

Macon Gas & Electric Light Company—January 25, 1888;

Missouri-Kansas Gas Company—June 27, 1928;

Panhandle Illinois Pipe Line Company—August 16, 1930;

Texas Interstate Pipe Line Company—February 12, 1930.

The dates of dissolution: Central Distributing Company, referring to a footnote on Schedule 1, Exhibit 112, indicates the date of dissolution of Central Distributing Company as follows: In January, 1941, Panhandle Eastern Pipe Line Company distributed to its stockholders the [fol. 3031] common stock of Central Distributing Company in payment of a dividend.

Continuing with dates of dissolution of the various companies:

Central Pipe Line Company—November 26, 1937;

Central States Gas Utilities Company—April 15, 1935;

Macon Gas & Electric Light Company—March 18, 1938;

Missouri-Kansas Gas Company—October 11, 1935;

Panhandle Illinois Pipe Line Company—July 30, 1938;

Texas Interstate Pipe Line Company—October 31, 1936.

Q. How long have you been employed by Panhandle Eastern Pipe Line Company? A. Since 1931.

Q. You are no doubt familiar with the companies whose names you have read, are you not? A. Yes, I am.

Q. Now, what was the business of Central Distributing Company?

A. They are a distributing company, as the name indicates. They receive their gas at the city gates and distribute it to their various retail customers.

Q. Now, Panhandle Eastern Pipe Line Company no [fol. 3032] longer owns that company, does it?

A. That is true.

Q. Do you know how many cities Central Distributing Company served, let's say, during the 4½ years of your study from April 1, 1932, to September 30, 1936?

A. Central Distributing Company served several small towns in Kansas and Missouri, approximately twenty in number. The total number of customers was about 3,500 at that time.

Q. Now, can you state the nature of the business conducted by Central Pipe Line Company during the 4½ year period that you used in your study?

A. No, I cannot. I have some general knowledge of it but I cannot state the exact business of it.



Q. Do you have any general recollection of the type of business in which it was engaged?

A. It was a separate corporation set up in Illinois for the purpose of owning a certain lateral line, as I recall it.

Q. Do you remember where the lateral line began and where it ended?

A. I believe that it was the Hoopston lateral in eastern Illinois.

Q. Now, what was the nature of the business carried on by Central States Gas Utilities Company during the 4½ year period?

[fol: 3033] A. They were the predecessor of the Central Distributing Company and carried on a distributing business.

Q. How many communities did you say were served by Central States Gas Utilities Company and the predecessor, Central Distributing Company?

A. I said about twenty.

Q. Would it be more accurate to say that those companies served 16 communities in Kansas and 13 communities in Missouri?

A. I had in mind the number served from the main line only. Apparently yours includes Local Area too.

Q. How many retail customers were served by those companies?

A. I said about 3,500, but I think now it is nearer 3,000. Of course, it varied over the years, beginning the period with, say 2,000 and ending the period with 3,500.

Q. Now, we might go to Macon Gas & Electric Light Company. What was the nature of the business carried on by that company?

A. They had a little manufactured gas plant up at Macon, Missouri.

Q. They manufactured gas? A. Yes, sir.

Q. Did they manufacture any electricity? Their name seems to indicate they might.

A. It is a misnomer; they did not.

[fol: 3034] Q. Do you know the population of Macon, approximately? A. Four thousand.

Q. Now, the Missouri-Kansas Gas Company, what was the nature of its business during the 4½ year period?

A. I believe it was a small gas production company in the Local Area.

Q. You are now referring to the Local Area that has been heretofore described in this proceeding as an area in Missouri and Kansas and in the vicinity of Kansas City, Missouri?

A. Correct.

Q. Now, the Texas Interstate Pipe Line Company, will you give us some information with respect to the operations of that company?

A. That was the producing company of the Panhandle system in the Hugoton and Amarillo fields.

Q. Now, referring again to Column G, of Page 2 of Exhibit 38, do not the figures in that column include the costs of manufacturing artificial gas which were incurred by Macon Gas & Electric Light Company during the period from April 1, 1932, through September 30, 1936?

A. I think an infinitesimal amount is included in that column as you have described it.

Q. What do you mean by "an infinitesimal amount"?

A. In respect to the total figures which we are dealing, these subsidiaries that were included in the study we are [fol. 3035] discussing here were very, very small.

Q. When does an amount become infinitesimal and when does it cease to become infinitesimal in dollars, in your opinion?

A. Now, that is very difficult to answer because no one knows. It is a relative term.

Q. You see, Mr. Morton, that is why I asked for your definition. My idea of infinitesimal may be different from yours and I wondered what you meant by it.

A. I am afraid I would not be able to give you a definition of what constitutes a very small part which we call an infinitesimal amount, but I am repeating again the amounts included in this study that go with those companies that you believe should be excluded are very small in respect to the total.

Q. What product did Macon Gas & Electric Light Company use for the purpose of manufacturing artificial gas? Was it coal?

A. Yes, they used coal and enriched it with oil.

Q. Now, will you explain how the cost of that coal and oil from which artificial gas was manufactured could be considered an operating expense attributable to unused capacity of this pipe line, Mr. Morton?

A. If we are going to analyze this thing down to that point, Mr. Littman, we will be here a long, long time, be- [fol. 3036] cause this did not purport to be anything except an engineering calculation based upon the statistics of the company.

Now, to answer your question specifically, there is no way that I know of that you can say that the oil and coal as used up a Macon should enter into that figure and I would like to add that it does not affect it one way or the other very much.

Q. Even if there was a dollar's worth in there, it ought to go out, shouldn't it?

A. Not in my mind, my conception of the problem, Mr. Littman. As we conceived this, we started out here to find out how much of the interest, ad valorem taxes, operating expense was attributable to unused capacity in the main line system of Panhandle Eastern Pipe Line Company and its subsidiaries which were principally Panhandle Illinois Pipe Line Company and the Texas Interstate Company, a producing company.

It is just a question of my conception of the problem.

Q. Does your conception of the problem embrace the inclusion in operating expenses attributable to unused capacity of a natural gas pipe line the cost of buying coal and oil with which to manufacture manufactured gas in Macon?

A. I was treating this project as a whole. Specifically, that small item, I can offer no particular reason for including that small item except to say that I was treating this problem in its broader aspects, such as this: I have dropped points after the decimal. Many of my calculations [fol. 3037] have not been, if you will notice, carried out to the cents. They are to the even dollars.

A matter of judgment enters into this thing. It was my judgment that it was entirely proper to include all of those little companies.

Q. Now, will you answer my question, please, Mr. Morton? I think you may have forgotten the original question and I think it can be answered yes or no.

The Witness: Since that expense was a part of the total expense of operating this project and since I included the expenses as a whole, I did not feel it necessary or proper to go to the detail of eliminating it.

By Mr. Littman:

Q. You did not bother to eliminate it?

A. That is correct.

Q. But you did bother to make certain eliminations, did you not, Mr. Morton?

A. Certain eliminations were made.

Q. All right. Suppose you tell us about the eliminations that you bother to make? Let's look at Page 1.

A. I selected what I thought were the pertinent and important eliminations and I did not try to make small eliminations that I felt would not greatly affect the answer. [fol. 3038] Q. Well, we will get to the question shortly of how large or how small these are, Mr. Morton, but for the time being, you want to leave those costs of buying coal and oil for the purpose of manufacturing artificial gas in your study?

A. Yes, that is all right.

Q. Now, how about the cost of reading meters in these various communities served in Missouri and Kansas by the Central States Gas Utilities Company?

Are the expenses of reading those meters in here too, in your Exhibit 38?

A. The expense of reading those meters is in Exhibit 38.

Q. How about the cost of advertising for new customers in those communities? Is that included?

A. Yes, sir.

Q. How about the cost of repairing a leak in a gas main or in a service line in one of these communities, in Missouri or Kansas, which was served by Central States Gas Utilities Company?

Are such costs also included in your total in Column G as "attributable to unused capacity"?

A. There are.

Q. What of the cost of billing these distribution customers by the companies that you named? Are those costs included in your Column G for the 4½ year period which you used as the "not loaded" period?

[fol. 3039] A. Yes, they are included.

Q. Should they be included? Should all of these expenses which I just enumerated be included in your totals in Column G as expenses "attributable to unused capacity" of Panhandle Eastern Pipe Line system?

A. Since those expenses formed a part of the operating expenses of the Panhandle Eastern Pipe Line Company and subsidiary companies, I believe that they properly belong in here.

Q. Now, will you please enlighten us as to what connection, if any, that character of expense which I just named had to do with the operation of the main line of Panhandle Eastern Pipe Line Company?

A. The expenses I have that I am talking about in this study are not necessarily expenses that are associated directly with the pipe line operation.

I have treated this in an over-all general way. I have taken the total expense of doing business, whether it is reading a meter or fixing a leak or whether it is paying the salary of the president of this combined enterprise and I have allocated this total operating expense to use and unused capacity on a percentage basis and since these small expenses you mentioned are in there, they have been treated just as the larger expenses are treated.

Q. Now, would you answer my question, Mr. Morton, please.

[fol. 3040] The Witness: There is a connection between the expenses of a distributing company and the expenses of the Panhandle Eastern Pipe Line Company which is the main transmission company.

They were affiliated companies. They were engaged in the same general endeavor and that is the sale of gas along the main line of this company.

Now, there is a connection between the expenses of the distributing company which sold main line gas and of the transmission company that carried it there.

Q. A connection between those expenses and what, unused capacity of the pipe line?



A. Yes.

Q. Wherein?

A. Since they were a part of the whole expenses of operating the project as I have explained and since I have split down the whole expense of operating the project into used and unused capacity, they may properly be included.

Q. Well now, suppose Panhandle Eastern Pipe Line Company had owned a very large distributing company [fol. 3041] during this 4½ year period or suppose that Panhandle Eastern Pipe Line Company's subsidiaries owned such a large system.

Let us suppose that that system had incurred, let us say, \$3,000,000 of operating expense in the manufacture of gas. Would you have treated that \$3,000,000 of expenses incurred in connection with the manufacture of gas as an expense attributable to unused capacity of the natural gas pipe line system?

A. That would have been a question of treatment. If the amount had been large in proportion to the total and if, in my judgment, it did not belong in there, I would certainly have removed it.

Q. You entertain some doubt about whether you would or would not remove it, do you not, Mr. Morton?

A. If it had been large in proportion to the total amount and would greatly affect the answer, I would have removed it.

Q. What would you have done if it was as much as \$3,000,000?

A. I would have taken that figure out of this.

Q. Suppose it were \$2,000,000?

A. I would have taken that out.

Q. Suppose it were \$1,000,000?

A. I would have taken that out.

Q. Suppose it were half a million dollars?

A. I do not know. I do not know how I would handle that.

[fol. 3042] Q. You might leave that much in?

A. I might or I might not, dependent upon how important it seemed. Importance, after all, is a great factor in the preparation of a study like this, its relative importance to the answer.



Q. Well, one-half million dollars a year would make a radical change, would it not, in your figures shown at the foot of Columns A, B, C, D and E on Page 1 of Exhibit 38, would it not?

A. Yes, half a million dollars would have been very important in that answer.

Q. It would give you quite a bit more going concern value, wouldn't it, too, if you had included another half-million dollars in there?

A. Yes, it would have.

[fol. 3043] Q. How many of these seven companies that you named were producing companies, I mean, natural gas producing companies; Mr. Morton?

A. I believe two.

Q. Namely, Missouri-Kansas Gas Company and Texas Interstate Pipe Line Company?

A. Yes, sir.

Q. Did Texas Interstate Pipe Line Company own the wells and some production system property in Texas Panhandle Field and in the Hugoton Field?

A. Yes, sir.

Q. And that was the company that was taken over by Panhandle Eastern itself, was it not?

A. That is correct.

Q. And that system now forms a large part of the present production system, does it not?

A. Yes, sir.

Q. Now, Missouri-Kansas Gas Company produced gas in the Local Area, is that correct?

A. Yes, sir.

Q. And that Local Area is presently a part of the en- [fol. 3044] tire Panhandle system, is it not?

A. That is right.

Q. Now, the ad valorem taxes incurred on the distribution system owned by Central States Gas Utilities Company and Macon Gas & Electric Light Company are included, are they not, in Column G?

A. Yes, they are included.

Q. And you still think they should remain in Column G?

A. I think that is entirely O. K. for them to be in there.

Q. I take it that all of the ad valorem taxes paid by all of the companies which you named with, I think, the exception of Illinois Natural Gas Company, are included in Column G, are they not?

A. Yes, they were all a part of the consolidated companies.

Q. Now, is the same true of interest incurred by all of those companies during the 4½ year period?

A. Yes, sir.

Q. What do you mean by the term "interest" as used in this exhibit? I have particular reference to Line 49 entitled "Interest Charges." What kind of interest does that include?

A. That applies to the bond interest, the actual out-of-pocket interest that was paid out by the consolidated [fol. 3045] companies as a result of the fact that they were in business and had property bonded.

It also included note interest and any other small items of interest that we usually group under the heading of "Other."

Q. Now, those interest charges as shown in Line No. 19 are rather large amounts. Of course, those are the basic amounts used, are they not?

A. Yes, sir, those are the amounts that were used; the basic amounts.

Q. They range from \$1,335,289 for the period shown in Column A from April 1, 1932, to December 31, 1932, to \$813,694 for the period January 1, 1936, to September 30, 1936.

What is generally the range, is it not?

A. Yes, sir.

Q. Do you consider interest paid on the bonded indebtedness as a proper basis upon which to compute going concern value, Mr. Morton?

A. I am not able to talk to you much about what is a proper basis of going concern value. I have no conviction on that matter that you asked me about then.

Q. Well then, you are not personally making any suggestions along the line of whether it should be included in any rate base for rate-making purposes, are you?

A. No, I am not.

Q. Well, did you make a suggestion to Mr. Biddison [fol. 3046] that this amount should be used for purposes of his study?

A. No.

Q. Well, you said you sold him a few times on a few items. Would you mind giving us some of those items that you sold him on and convinced him that he should include in this study?

A. Well, it was not necessary for me to convince Mr. Biddison. From my conversations I could tell very early in the first discussion we ever had of it that, to his mind, interest charges were certainly a very important part of a calculation that would show costs attributable to unused capacity.

Q. And you agreed with that, didn't you?

A. Yes, I think they are part of the costs that may properly be shown as properly attributable to unused capacity, some of that cost.

Q. For purposes of forming the basis of an estimate of going concern value?

A. Well, I am not too familiar with the subject of going concern value, so when you ask me if it is proper as forming the basis for going concern value, I do not have any opinion on that.

Q. Suppose Panhandle Eastern Pipe Line Company and its subsidiary companies had not had any bonded indebtedness during this 4½ year period of so-called unused capacity. How much would you have included in Line 19? [fol. 3047]

A. None, or nothing.

Q. Well, in your opinion, the greater the bonded indebtedness of a company, the greater the going concern value?

A. I do not know about that.

Q. If one company has a low rate of interest on its bonds, and another company has a high rate of interest on its bonds, would you want to recommend to this Commission that the latter should be given a greater going concern value than the former?

A. I am not testifying on going concern value. I do not know.

Q. But if you made the study for a gentleman such as Mr. Biddison who was making an estimate of going concern value, you would submit a study which would show

considerably more interest "attributable to unused capacity" for the latter character of company than for the former character of company that I have described, is that not correct?

A. I can agree with you if you change your question just to the extent that if I were submitting to him a study purporting to show interest attributable to unused capacity.

Q. Yes, on that account.

A. On that last character of company, the figure would be larger.

Q. Now, you made a study on your own hook, so to speak, before Mr. Biddison came into the picture and took [fol. 3048] over, and I will ask you whether or not your original study included such an item as interest charges as a basis of going concern value.

A. Yes, that is true.

Q. Well, you then do believe that it should go into a rate base, don't you?

The Witness: I did believe it should go into a rate base. I now have no opinion.

By Mr. Littman:

Q. Now, did your original study comprehend the inclusion of operating expenses as one of the bases for your determination of going concern value?

A. Yes.

Q. So at that time you entertained some ideas of your own on that subject?

A. Exactly.

Q. Well, let's see what those ideas were. Do you have [fol. 3049] any ideas on the subject now?

A. No, I am convinced that I do not know much about going value.

Q. Well, let's go back to the old days when you had some views on the subject.

If one company had high operating expenses by reason of inefficient management and another company had low operating expenses by reason of efficient management, all other things being equal, which one would receive the greater going concern value if operating expenses were to be taken as the test?

A. I do not know.

Q. Well, Mr. Morton, if you were submitting basic data for use in connection with a going concern study such as appears in Exhibit 38, the company having the higher operating expenses by reason of inefficient management would receive a larger amount in Column G, Page 2 of your Exhibit 38, than the company having lower operating expenses by reason of efficient management, is that correct?

A. That is correct, if we followed the formula that we have shown here in these five methods.

Q. Do you consider that a proper method that produces such a result?

A. A proper method for arriving at costs attributable to unused capacity following the formula that I have used here, I would say yes.

[fol. 3050] Q. Now, your study, particularly that part of it which is shown on Page 1, Line 21, "Operating Expenses—Partial" includes every dollar of delay rentals paid on unoperated acreage by Panhandle Eastern Pipe Line Company and its subsidiary companies during the entire period.

From April 1, 1932, to September 30, 1936, does it not?

A. It does.

Q. Will you please look at your working papers and tell me how much has been included in Line 21 of delay rentals paid on unoperated acreage?

A. For what period, did you say?

Q. For your 4½ year period which I believe you have characterized from time to time as the "Not loaded period."

A. I do not have the sum added.

Q. Well, you have got \$66,319 in the nine months of 1932, have you not? A. Correct.

Q. \$85,691 in the calendar year 1933? A. Correct.

Q. \$85,824 in the year 1934; \$85,265 in the year 1935, and \$63,445 in the nine-month period in 1936 from January 1 to September 30 in that year?

A. Correct.

[fol. 3051] Q. According to my arithmetic, it is \$386,544. Does that sound right to you?

A. That appears to be correct.

Q. If it is incorrect, I wish you would please correct it later. A. Yes.

Q. Now, do you know whether the company proposes to capitalize delayed rentals paid subsequent to September 30, 1936?

A. No, I do not.

Q. You have a pretty good idea, though, that they do not intend to, don't you? A. Yes.

Q. By "yes", you mean that my statement is correct?

A. Correct.

Q. Perhaps it would be well for you to tell us what delayed rentals are? I am not sure whether the record has a descriptive statement of that or not. I would appreciate it if you would make a brief statement descriptive of the meaning of that term.

A. I previously stated that I was not an accountant but perhaps my rough knowledge of it will suffice.

Q. All we want is a general description.

A. Those are payments that are made to land owners by the company in lieu of drilling of wells.

Q. And that acreage is commonly called unoperated or [fol. 3052] undrilled acreage, isn't it?

A. I believe so.

Q. Well, does unoperated acreage represent used capacity or unused capacity, Mr. Morton?

A. I think it depends upon the circumstances.

Q. Suppose you give us the circumstances in which you would consider unoperated, undrilled acreage to be used capacity?

A. Let me discuss the unused capacity for a moment to get my thoughts clear on it.

If you made contracts or purchased something in excess of that which was immediately required because you were going to need it after a while, in the interim between the time you purchased it and the time you did use it, it would be unused and, therefore, in this study here would have been treated as unused capacity.

Now, I have only treated a portion of these delayed rentals as unused.

Q. I do not know whether you had completed your answer? A. Yes.



Q. Well, none of it is used, is it, until it is drilled?  
[fol. 3053] A. Well, I do not think you necessarily have to have something immediately active to say that it is in use. I submit that an inanimate object could be used.

Q. Under your theory, delayed rentals might just as well be capitalized in 1940 as in 1935, might they not?

A. I do not believe I understand your question.

Q. What don't you understand about it?

A. You say these delayed rentals might as well be capitalized in 1940 as 1935.

Q. Under your theory, it would be just as proper, according to your theory, to capitalize them in 1940 as to capitalize them in 1935.

A. Perhaps I do not have enough knowledge of accounting to get at what you are speaking about, Mr. Littman.

Q. Let me put it this way: The use that is being made of this exhibit is, that these amounts that you have in Column G or amounts very similar to them, it is claimed, should be capitalized, that is, they should be made a part of the rate base upon which the company claims that it is entitled to earn a reasonable return."

Mr. Wheat: Of course, you understand, Mr. Littman, there has been no suggestion that it has been capitalized in the technical sense of that term.

Mr. Littman: In the practical sense—

Mr. Wheat: (Interposing) No, nor in the practical [fol. 3054] sense of the term. That is what I think is bothering the witness, that it was capitalized.

Mr. Lee: But it is in the rate base—

Mr. Wheat: (Interposing) I think what is included in the rate base and what is capitalized is a highly different problem. I think the question is confused.

The Witness: But that question goes way beyond this study that I have made here, which is just my idea of the costs attributable to unused capacity.

Mr. Lee: But the object and end of the study, though, regardless of how you characterize it, is to get the money there represented into the rate base upon which you want a return, isn't that true?

The Witness: If you want to make an assumption, Mr. Lee.

Mr. Lee: Isn't that why you made the study?

The Witness: That is perfectly all right. But, as I say, that is so far ahead of the thing we are talking about here that your witness cannot give you any enlightenment on that subject at all.

Mr. Culton: I suggest counsel address the questions on propriety to the witness who testified on propriety. This witness has stated he had done nothing except to determine what it cost the company to carry unused capacity.

He has not testified as to what should go into the rate base or anything. Mr. Biddison has testified on those matters.

[fol. 3055]. Mr. Lee: Yes, but he and Mr. Biddison worked so closely together and it is a part of the general mosaic of the picture they are painting here and it is common-sense he knows what the objective is and no matter what you call it, the objective is to get it into an enlarged rate base and get a return on it.

He knows what we are talking about. He is not confused or misled, or anything.

By Mr. Littman:

Q. Let me get at the matter this way, Mr. Morton.

You understand, I am not trying to confuse you deliberately.

Is it not true, under your theory, that delay rentals might just as well be called "expense attributable to unused capacity" in 1941 as in 1935, is that not correct?

A. Why, I think that is true.

Q. Now, isn't it a fact that, under your theory, the greater the delay rentals paid, the greater the amount that you find attributable to unused capacity and the greater the going concern value, if your study is to be used for going concern value?

A. Well, is it necessary for me to assume that it is going to be used for going concern? Couldn't I just answer your question by saying that the greater the delay rental, the greater under this study here, showing costs attributable to unused capacity, the greater would be the [fol. 3056] costs attributable to unused capacity.

Q. That is satisfactory. That is your testimony?

A. Yes, sir.

[fol. 3059] O. W. Morton, a witness, having been previously duly sworn, resumed the stand and testified further as follows:

#### Cross-Examination (Continued)

By Mr. Littman:

Q. Mr. Morton, at the close of yesterday's session, we were discussing Exhibit 38. I wish you would please turn to Page 1.

Now, in Lines 1 and 2, you show the total investment. Will you briefly describe what is included in those figures, just generally, without giving us the details.

A. I might refer here to my memorandum, which incidentally, is included with my working papers which you have seen.

Q. Yes.

A. My memorandum to the Accounting Department requesting this information.

"We will require average investment in property, plant and equipment for each of the periods broken down into—

- (1) Main line;
- (2) Local Area;
- (3) Argus;
- (4) Hugoton 16-inch line;

[fol. 3060] (5) Liberal Compressor Station.

"The purpose of this segregation is to obtain figures that will enable me to make certain allocations."

That is the request and the information shown in Lines 1 and 2 is information sent to me by the Accounting Department in reply to that request.

Q. So that the total in Line 2 includes all of the property that you have just described? A. Yes, it does.

Q. Then you make certain deductions, do you not, from that total, as shown in Lines 3 and 4? Those deductions are for "Argus, Local Area and portion used in transportation".

Would you please give us the breakdown of those figures as between the three classes which are named in Lines 3 and 4?

A. Yes. That information is shown on the third work sheet, my work sheet No. 3. On that work sheet we show the total investment in the Local Area forwarded to me by the Accounting Department and, incidentally, that Local Area investment which we have taken out of the total includes one of the subsidiaries to which we were referring yesterday, the Missouri-Kansas Gas Company.

I have since found that that subsidiary is listed here in Local Area and, therefore, was deducted from this entire presentation we have made in Exhibit 38.

Q. When you speak of deductions, are you speaking of [fol. 3061] deductions of investment and gross revenues?

A. Yes.

Q. Are you including deductions for—

A. (Interposing) Yes, the operating expenses also are taken out of this picture so that that item that we discussed yesterday is not in here at all.

Q. That is, as to the—

A. (Interposing) Missouri-Kansas Gas Company.

Q. Missouri-Kansas Gas Company? A. Yes.

Q. How about interest? A. That is out.

Q. That is out also? A. Yes, sir.

Q. Will you proceed with your explanation?

A. You were asking me to give you a breakdown of the items which are totaled on Line 4, Page 1. Those totals consist of three items; the investment which was furnished me [be] the Accounting Department representing the total investment in the Local Area which is not related to the

main line system and, therefore, I felt should be eliminated from this study; it also includes Argus investment, that is, the investment in some wells out in western Kansas with which you are perfectly familiar that that has nothing to do with this main line story; and also includes an adjacent [fol. 3062] located portion of the main line which was used for transportation of gas for Northern Natural Gas Company.

That is the detail of the three items, the total of which is shown on Page 1, Line 4.

Q. Now, will you explain why you deducted the investment used for transportation on behalf of Northern Natural?

A. That was a service for which the pipe line was not designed. My conception of its probably was this: Here was a pipe line of some 860 miles in length. It had been constructed for the purpose of furnishing a market at some future date but, in the interim, there were certain parts of it that were not loaded, namely, out of the 860, about 800 miles of it was not loaded. For a short time, we were able to carry some emergency gas for the Northern Natural Gas Company at a very small rate and, during the time that we carried this gas for the Northern Natural Gas Company, that section of the line carried a pretty fair load and I felt that, in a story that is to show the cost of carrying unused facilities, it had no place, so I eliminated it.

Q. Did you eliminate any part of the production system investment that was being used to serve Northern Natural?

A. No, I did not.

Mr. Culton: Was any portion of the production system used to serve Northern Natural?

A. The Witness: I believe this Northern Natural gas was [fol. 3063] produced from another source other than ours.

Mr. Culton: I thought counsel might have an erroneous understanding of the facts there.

Trial Examiner: What is the fact as to that, Mr. Culton?

Mr. Culton: We picked it up from their wells and transported it.



Trial Examiner: It was merely a transportation service?

Mr. Culton: That is right.

Trial Examiner: You were not selling gas?

Mr. Culton: We were not selling gas from that particular service. We were selling Argus but that gas was not used in these facilities at all.

Mr. Littman: Mr. Culton, you are quite familiar with that situation?

Mr. Culton: I think so.

Mr. Littman: Would you mind telling us where this gas was picked up and from whom it was secured and where it was delivered? Perhaps you can tell that.

Mr. Culton: I have a general idea, but I think the fitness can be more specific about it.

The Witness: Roughly, the story is this: They had their own production out there around Hugoton, Kansas.

By Mr. Littman:

Q. By "they", you mean Northern Natural?

A. Northern Natural, or else had made arrangements [fol. 3064] for some production out there and, pending the time of their building a pipe line over to it, they made an arrangement with us, under the terms of which they would use our pipe line since it was unloaded and had a lot of unused capacity in those days, they would use our pipe line until such time as we told them to get off and we picked up this gas out there and carried it up to Liberal, and from Liberal station east about 80 miles, to the point of their main line intersection with ours and there we turned it back to them.

Q. So that you made an elimination from investment of the investment applicable to that classification for the purposes of this study?

A. Yes, I did.

Q. And you made an elimination from the gross revenues?

A. Yes, I did.

Q. For that?



A. Yes, and also the operating expenses in connection with that service.

Q. Yes. How did you make the elimination from operating expenses? What method was used?

A. I used a very simple, direct standard usual engineering procedure. Very simply explained, it is just this: That if the investment necessary to do a certain thing was so much of the total, then the operating expenses that might be eliminated from the total was just in proportion [fol. 3065] to the investment that was there.

Q. And that proportion of deduction was the proportion of all of the expenses?

A. Yes, sir.

Q. You applied a ratio to the total?

A. That is right, a ratio to the total project.

Q. And did you apply the same method with respect to making a deduction for interest?

A. Yes; I did. No interest is in there for that.

Q. And what you have said with respect to Northern Natural, I presume, would go also for the Argus and Local Area?

A. That is true, the same general approach.

Q. Now, Mr. Merton, I refer you now to line 21 "Operating Expense, Partial." Now, will you explain what expenses are included in that line?

I believe yesterday we agreed that all delay rentals were included?

A. Yes, in general, I did this: You asked what is included in that line, I realized from my studies that there was, let us say, an average of 55 percent unused capacity in this line.

I reasoned then, by a very simple process, that if there was 55 percent unused capacity in the line, that probably 55 percent of the operating expenses of this whole project were being incurred because of this unused capacity.

[fol. 3066] Q. You mean 55 percent of all the operating expenses less that proportion of them which you have explained you have deducted?

A. You are anticipating me, I am building up to that. As I say, I felt that if there was 55 percent unused capacity in the line, then it would be a reasonable assumption to just

sit right down and take 55 percent of all the operating expenses and say that they were incurred because of unused capacity but, after I studied the problem a little bit, I could see that there were some expenses in this project that I could not say were there because of unused capacity.

I could see that there were some very large items, like purchased gas, for example, the cost of purchasing gas. Well, that has nothing to do with unused capacity so I just eliminated it from this whole study.

I am discussing a little bit in detail these operating expenses that you have asked about.

There is the next item on that list and I am looking at the list which I requested the Accounting Department to furnish me, and the next item of expense, the next general classification is "Purchased Gas Expense."

Well, that expense is expense that results from employing men to read meters out there in the field and to pay for their transportation, maintained their cars and supplies and equipment.

Well, in those days, we had more or less of a skeleton [fol. 3067] force out there. This skeleton force was maintained, whether we sold 10 billion a year or 20 billion a year, just about the same size. It had no relation to the fluctuations of the amount of gas sold.

It appeared to me to be largely an item that was related to unused capacity but, to be on the safe side and to avoid long, detailed discussions on it, I eliminated it from this study. I eliminated all of that expense.

Now, the next item is the one that we were discussing, "Delay Rentals." As I say, I analyzed these expense account, in general. I did not go into them in detail to find out all of the charges that have been made of the four or five year period against every account.

I just treated them in general and said, "What is this delay rental? Well, that is an expense that is incurred on account of maintaining acreage." That is what delay rental really is. It is one of the expenses incurred with maintaining acreage.

Now, that acreage was maintained not for the present time but for the future time when the line would become loaded, so it seemed to me, and I think it is quite apparent to you, that the acreage was lying there awaiting the time when it could be used in the fully loaded activities of this pipe line so the operating expense, it seemed to me like the most natural thing in the world to assume that the operating expense that was incurred in maintaining that unused [fol. 3068] acreage, if you please, unused because it was there awaiting the time when it would be used for a fully loaded line, it seemed to me that that expense certainly should be given careful consideration in arriving at those expenses that were attributable to unused capacity during the early years of this project.

You want me to go right on through the group?

Q. Yes.

A. The next item we have here is "Gas Wells"—

Mr. Chamberlain: (Interposing) May I ask there, I beg your pardon, then you did not eliminate the cost of the delay rentals in your computation?

The Witness: The net effect is that some of the cost of the delay rentals shows up in this study. Exhibit 38, as expense incurred on account of unused capacity, so the answer is, I did not eliminate it.

Mr. Chamberlain: Well, is it all included? That is, the 55 percent proportion of it?

The Witness: No, I am glad you asked me that, Mr. Chamberlain, I had overlooked that point. We are looking now at total expenses, I am looking at delay rentals for the year 1933, to be specific, which was \$85,691.

Now, 10 percent of that \$85,690 was eliminated when we went through our operating expense and took out everything connected with Local Area, Argus and Northern Natural.

[fol. 3069] That is to say, 10 percent of that dropped out of the picture before we started and then, of the balance, which would be some \$78,000, of the balance only a portion have I charged into the cost or against the cost of carrying unused capacity and that proportion is based upon the

percentages shown in the five different methods, about 60 percent.

By Mr. Littman:

Q. Now, this 10 percent that you spoke of, how did you arrive at that?

A. You asked about the items on Line 4, that is, Northern Natural investment, Local Area investment and the investment in Argus.

Now, I took that investment which is about 10 percent of the total, by the way, and applied that percentage to the total operating expenses, I took out right at the start 10 percent of the operating expenses and threw them clean out of this whole story because they had nothing to do with it.

Q. Will you proceed with your explanation?

A. Gas Well Royalties were a very small item during those years. Of course, gas well royalties has nothing to do with unused capacity in the system and so, naturally, I threw it out.

Now, the next item I have listed as expenses which were considered in arriving at the cost of carrying unused capacity, the next item is "Production Department, Other." [fol. 3070] Production Department, other, means, expenses incurred in operating our production department, which have nothing to do with the delay rentals or gas purchased expense or the cost of gas or rather, when I say, "nothing to do with it," I mean after we eliminate from all production expense the cost of gas purchased and purchased gas expense and delay rentals and royalties, then we have a residue which is left which, by the way, averages about \$40,000 a year, and that represents the cost of maintaining a production organization.

A large part of that goes to the office in Kansas City. Now, my conception of this thing was that this whole production expense, almost all of it that is, the portion that is classified here as "production, other," was attributable to unused capacity because we were maintaining a big standby force there to operate this big project although we were not selling very much gas out of it but because it carried the title, "Production", I omitted it.

I just leaned over backwards and threw it out of this study because I was afraid that when the time came and we got to discussing it, we would spend too much time and detail on it and it does not amount to much anyway, \$40,000 a year, so I just threw it out but I do not believe it should be out and it does offset many of the small items we have discussed to this point.

Now, the next item was "Transmission". I asked the Accounting Department to give me a breakdown of all the [fol. 3071] transmission expense just under two heads. I did not ask for details at all.

As I say, we tried to avoid detailed studies in these expense accounts because that is an interminable proposition. There are many millions of items that have been charged, literally millions of items that have been charged to these accounts over these periods.

I asked the Accounting Department to give me the transmission expense in two headings; (1) compressor stations, and, (2) other transmission expense.

I asked for it under these two headings because I knew that part of the compressor station expense should go out of this picture. I knew that some of the compressor station expense was proportional to the amount of gas carried and had nothing to do with unused capacity, so I wanted compressor station expenses separate so I could eliminate it.

Now, in eliminating compressor station expense, I have eliminated a great deal of the value or the cost that should go in this study.

As I say, I have eliminated it completely. You wonder why I say that. It is because of this: During all those years, we maintained a standby force, we maintained standby equipment, supplies and materials of all kinds at these compressor stations awaiting the day when they would be fully used.

Now, a lot of that expense, as I say, was attributable to [fol. 3072] unused capacity. I think that will be clear on the face of it without my going any further in detail, but I eliminated every bit of it from this study because I felt we were going to need some leeway in some of these items.

I knew that there would be some definite items included here ~~inadvertently or in my haste~~ to get a quick picture drawn. I knew there would be some items included if you debated them out, item by item, which would not belong in there, so I left that leeway in these other accounts to take care of such items.

Now, next, we come to "Transmission Expense"—

Mr. Wheat: (Interposing) Pardon me. Mr. Morton, you did not give a sample amount of this compressor station expense.

The Witness: The total compressor station expense averaged for the period about \$100,000.

By Mr. Littman:

Q. Averaged for what period?

A. For the entire period of this study.

Q. You mean 4½ year period?

A. Yes, it is about \$100,000 per year, is what I intended to convey. To be specific—

Q. (Interposing) Just a minute. You have confused me.

Now, we are speaking of a 4½ year period from April 1, 1932, to September 30, 1936. Now, is the \$100,000 for the entire period or is it \$100,000 per year over the 4½ year period?

[fol. 3073] A. \$100,000 per year over the 4½ years.

Mr. Chamberlain: Now, that is compressor station expense?

The Witness: Yes, sir.

Mr. Wheat: And you eliminated all of it?

The Witness: I eliminated all of it.

The Witness: The next item that I have is a very sizeable item. It is "Transmission, Other". It averaged close to \$200,000 a year for the entire period. I considered all of this expense in arriving at the amount of operating expenses chargeable to unused capacity during these years, and when I say "considered all of it," I do not mean that



I included all of it as operating cost of carrying unused capacity.

I mean that I considered it and I applied to it the percentages and the method shown in Exhibit 38.

By Mr. Littman:

Q. You mean, you included all of it in Line 21, don't you?

A. I mean I included all of it in Line 21, but after Line 21, I eliminated some of it, about 10 percent of it, on account of Local Area, Argus and Northern Natural, and then I eliminated about 45 percent of the balance on the ground that it certainly was not due to unused capacity.

That left about 55 percent of all of that shown under [fol. 3074] "Transmission, Other." It left about 55 percent of it in the answer.

Now, the next item that I have listed is "Distribution." That item averages about \$18,000 a year, I think. You asked yesterday why we should include an item that was labeled "Distribution" in a study like this.

Mr. Culton: That amounts to how much per year?

The Witness: That amount to about \$18,000 per year, and you said at the time you asked me whether or not meter reading of the distribution customers' meters should be included in here.

First, I want to state that I did not include all of distribution expense in the final answer which final answer is my figure of the cost of carrying unused capacity in this system.

By Mr. Littman:

Q. Just a minute, you did not include all of anything in your final figure, did you?

A. That is right.

Q. Now first, let's talk about Line 21.

[fol. 3075] The Witness: Line 21 is merely an intermediate step in this process of arriving at the operating expense attributable to unused capacity.

[fol. 3076] Q. I am going to put to you a very simple question.

State whether or not you have included in Line 21 all of the distribution operating expenses which you just described a moment ago.

[fol. 3077] I would like the record to show that.

The Witness: All of that expense entitled "Distribution" is carried over to Line 21.

Q. Now, did you make any deduction from that amount of distributing expense included in Line 21 before you got down to Line 26?

Let's put it that way. Have you made any deduction in Line 26 or before you reached Line 26 from that distribution system? A. Yes.

Q. All right. Now, you may state what you deducted.

A. The total deduction from the totals shown on Line 21 is shown on Line 24 and is—I would like to strike that—the deduction in operating expenses that we are discussing and the expenses which are shown in Line 21 amount to about 10 percent for Local Area gas transported, Argus pipe line elimination and from the balance, I have eliminated about 45 percent on an average as being the amount that was attributable to used capacity, leaving in unused capacity about 55 percent of the balance.

Q. And you are way ahead of me again. I would like to go through this step by step in order that the record may show clearly what you did. We are going to get to [fol. 3078] that 45 percent and we will give you every opportunity to explain it, but tell me, Mr. Morton, whether you made any deduction in Line 24 from the total distribution system which was included in Line 21. I am speaking now of distribution expense. A. Yes.

Q. Now, what deductions did you make?

A. Line 24 shows the total of all deductions from operating expenses shown in Line 21 which were made as a result of using the Argus, Local Area and Northern Natural Gas allocation.

Q. Can you tell us what that allocation was?

A. Since that property was about 10 percent of the total property, why, the effect of washing that through the operating expense means that we have reduced the operating expense by about 10 percent.

Q. I see. In other words, if I correctly understand you, and we are now speaking of distribution system expenses; you put all of them in Line 21 and then you made an elimination in Line 24 of approximately 10 percent to get the 90 percent balance approximately in Line 26, is that correct? A. That is correct.

Q. After you had your amount in Line 26, you then applied your percentage of unused capacity for each of the periods? A. That is correct.

[fol. 3079] Q. Is that right? A. That is correct.

Q. That brings us down to the 45 percent which you were speaking about, roughly.

A. Yes, it does. The next item—

Q. (Interposing) Just a minute. Why did you allocate distribution expense on the same basis as you allocated the Argus, Local Area and transportation expense?

A. I just took the total and allocated the total and since the distribution formed a part of the total, it went right along with the total.

In other words, I made no separate study, as I said before, no separate detailed study of each account.

Q. Well, did these distribution systems have anything to do with the transportation of gas for Northern Natural?

A. I have thought about this distribution system in connection with this whole matter since we discussed it yesterday, and it is quite apparent to me that this distribution business is just as much a part of the unused capacity of this system as any of the other items that we have discussed.

Q. Even though one of these distribution systems was carrying artificial gas?

A. Even though one of them happened to be caught in the net with the Central Distributing Company which was selling gas on the main line.

Q. Now, will you answer my question, please, Mr. Morton?

[fol. 3080] A. Your question was, as I recall it, whether or not the distribution system has any connection with the Northern Natural Gas?

Q. Yes. A. Was that it?

Q. Yes.

A. I see no connection between the two.

Q. Well, what connection did these distribution systems have with the Argus sales?

A. This had no connection with the Argus sales.

Q. What connection do these distribution systems have with the Local Area situation?

A. Of course, in that case, you do realize that much of the distribution is in the Local Area around Kansas City. A large part of our distribution activities were in the Local Area.

I might say that if I had made a detailed study of that distribution account, I would have eliminated more than was eliminated by using the 10 percent that we spoke of.

Q. I do not know whether you had completed your discussion of these expenses or not, Mr. Morton? I want to give you every opportunity to do so.

A. No, sir, I can go right along through them. The next item that we have here—

Q. (Interposing) We are still talking about Line 21; [fol. 3081] are we not? That is, the total figures included in Line 21 and then you are tracing the deductions?

A. That is correct.

Q. We have discussed so many other things since then that I wanted to make sure that we were talking about the same thing now.

You may proceed.

A. The next item we have in this detail of operating expenses consisted, the total of which appears in Line 21, is customers' accounting and collecting.

This item amounts to about an average of eighteen or nineteen thousand dollars a year. I included that along with the other expenses considered.

Mr. Wheat: Which is that item, Mr. Morton?

The Witness: This item now is customers' accounting and collecting.

Mr. Wheat: Thank you.

The Witness: The theory under which that was included, if we have to have a detailed theory for the inclusion of each one, is that a great deal of the accounting that we had, the accounting force which we had in the company was maintained because we were a growing company and we were preparing to handle larger affairs than we were at that time handling.

Therefore, I thought that certainly a portion of the customers' accounting and collecting was attributable to un-[fol. 3082] used capacity.

By Mr. Littman:

Q. Just before you leave that point, had you finished your answer on that character of expense that you have called "Customers' Accounting and Collecting Expense"?

A. Yes, sir.

Q. You would expect, would you not, Mr. Morton, that the customer accounting and collecting expense would go up when Panhandle Eastern attached more customers, wouldn't you?

A. Yes, but not proportionately, and that is the point I am making.

Q. You mean, not exactly proportionately?

A. That is right, not exactly proportionately, or even approximately proportionately. You see, part of that force, as I say, is a standby force, occupying a large office, awaiting the time when they, like the pipe line, would be used.

Q. Now, that customers' accounting and collecting expense includes, does it not, accounting and collection expense in connection with the distribution systems?

A. A great deal of that is attributable to the maintenance of the distribution system.

Q. In other words, this is all in addition to the \$18,000 you mentioned a moment ago, is it not? We are now talking about a separate character of expense.

A. Yes, the two together just about form the annual ex-[fol. 3083] pense of the whole Central Distributing Company.

Q. Now, a company such as Panhandle Eastern Pipe Line Company, which is a wholesale company, does not,

when it confines itself strictly to wholesale business, have very many customers in number, does it?

A. When it confines itself strictly to wholesale business, I think that is true.

Q. And that is the purpose for which this system was originally designed, isn't it?

A. I think so.

Q. Now, in the years when Panhandle Eastern owned these distribution systems and had these various retail consumers to serve directly through its subsidiaries, it, of course, had a higher amount of customer accounting and collecting expense than it would have had, had it confined itself strictly to wholesale business, is that correct?

A. Yes; it costs more to carry on that kind of business than a wholesale business.

Q. But you still feel that you were justified in including a part of that expense?

A. Yes, because we have included the revenues too, you see, from that business, and the M. c. f. also in our study. We did not just weight it down with the operating expense. We have got everything of this company in there, all of the Central Distributing Company activities.

[fol. 3084] I might say to you, if we threw the whole thing out it would not affect the answer one percent.

. . . . .

Q. You are talking about one item?

A. I am talking about the Central Distributing system. If you threw all the items out you would not affect the total one percent.

Q. But in addition to the amount you are talking about—

A. (Interposing) The total of all the subsidiaries we talked about yesterday is less than one percent.

Q. Well, are you prepared to give us a detailed itemization of all of this character and type of expense?

A. I am prepared to tell you that it would not affect the answer over one percent.



Q. Suppose you answer my question.

[fol. 3085] A. I have made a study that is detailed enough to assure me that what I have said is true.

Q. Detailed enough to convince you, but we do not know about it, Mr. Morton. Is it in your working papers?

A. I have prepared, since you and I talked, a study, Mr. Littman, showing that if we threw out every subsidiary that we have discussed, we would not affect the answer \$100,000 out of five and one-half million dollars.

Q. Have you made a detailed audit of the company's books to ascertain the amount of expense involved in distribution and the interest charges?

A. There is no use in my saying I have made a detailed audit. I have made over-all figures and made enough allowances for every kind of error that might creep in, and still do not get any appreciable error in the answer.

Q. Suppose you tell us how much interest Central States Gas Utilities Company paid during these 4½ years?

A. I do not know the interest Central Distributing paid, but in this study, I have not considered the interest Central Distributing paid. This is a consolidated story. The inter-company payments of interest do not show up here, in this item.

Q. They are certainly included, are they not, in the totals at the bottom of Page 1?

A. We do not add every interest that every subsidiary [fol. 3086] pays to the parent company and duplicate it each time as it goes from one subsidiary to the other. This is a consolidated statement of interest.

Q. I understand that, of course, it is a consolidated statement. Did Central States Gas Utilities Company have any outstanding bonds?

A. No, I do not think it did, as I recall it.

Q. Do you know whether they did?

A. I am quite sure they did not.

Q. Do you know whether any of the other companies, subsidiary companies, that we discussed yesterday, whose bond interest is included in here, had any outstanding bonds?

A. I do not see how that would affect this story at all.

Q. If they had any outstanding bonds and paid any interest, that interest would be included, certainly, would it not, in Line 19?

A. Yes, sir, if they paid interest to the parent company, which they did, why, it would be washed out in this story, since we are considering a consolidated story.

Q. Well, if they paid it to others than the parent company?

A. If they paid it to others than the company, that is true, it would.

Q. It would be included? A. Yes.

[fol. 3087] Well, do your working papers show the amount of interest paid by these subsidiary companies to outsiders?

A. If any was paid to outsiders by these subsidiary companies, it shows on my working papers, entitled "In- [fol. 3088] terest Expense."

Q. Does it show a breakdown of the interest?

A. This is a consolidated story and does not show the breakdown of interest payments between the inter-company relations.

Q. And the figure that you used as interest payments was furnished to you by someone else, wasn't it?

A. This figure was furnished to me by the Accounting Department.

Q. And you are not personally familiar with those figures, are you?

A. I am to the extent that I discussed them with the Chief Accounting officer and he explained—

Q. (Interposing) Just a minute. I object to what the chief accounting officer explained. I asked you whether or not you, of your own personal knowledge, knew the breakdown of the figures that you used for the purposes of this study with respect to interest?

A. I, of my own personal knowledge, have not gone into the books of the company to obtain details that back up these over-all consolidated figures that have been handed me by the accounting department, that is correct.

Q. So that it follows, does it not, that you do not, of your own personal knowledge, know how much bond interest is included in your figures that was paid by these subsidiaries to outsiders?

[fol. 3089] A. Not as individual companies, but as a total, yes.

Q. Of course, your total is shown on Page 1 of Exhibit 38, is it not, and what you have just said with respect to interest is true, also, is it not, of the ad valorem taxes shown in your study?

That is to say, you have no personal knowledge of the details of those taxes, do you?

A. That is correct. The Commission has seen all of my working papers, every one that applies to this, and it is shown on the face of them just what it is.

Q. And those working papers do not show any breakdown, do they?

A. They do not show a breakdown. They show totals consolidated.

Q. And the same is true, is it not, of the operating expenses? You do not know, of your personal knowledge, the details of those operating expenses, do you?

A. All of these figures are on a consolidated basis. I do not know the individual amounts contributed to the total by each of the separate subsidiaries.

Q. It follows then; does it not, Mr. Morten, that you do not, of your own personal knowledge, know what proportion of the expenses, taxes, and interest attributable to these distributing systems [that we have named are in [fol. 3090.] cluded in your total figures and study in Exhibit 38?

A. Study 38 and the figures shown in that study do not reflect the individual company's interest payments.

Q. Are you talking about interest payments by those companies to Panhandle Eastern, their parent company, or to others?

A. It shows no detail as to either of those.

Trial Examiner: At the beginning of your testimony this morning, Mr. Morton, as the Trial Examiner recalls it, you read the substance of a request which you had made of the Accounting Department.

Is it correct to say that your request was for a consolidated statement of the items to which you made reference?

The Witness: It is.

Trial Examiner: And when you say a consolidated statement you mean that we shall understand that the

statement was to include all of the subsidiaries which were named yesterday?

The Witness: Yes, sir.

Trial Examiner: And your entire Exhibit 38 is based on the data and information you obtained from the Accounting Department in response to that request?

The Witness: Yes, sir.

Mr. Coulton: May I ask if that Accounting Department is the department of which Mr. Watkins is the head?

The Witness: It is. I understood all of the figures in [fol. 309L] this rate case were to be submitted on a consolidated basis.

Mr. Wheat: At any rate, that is what you have attempted to do?

The Witness: Yes, sir.

Trial Examiner: And, of course, you can obtain full detailed information as to any of these matters concerning which Mr. Littman has interrogated you, if given time?

The Witness: Yes, sir.

By Mr. Littman:

Q: Now, have you completed your enumeration of the expenses and the manner in which deductions were made? I believe the last one you mentioned was "Sales Promotion Expense." Are there any others?

A: "Administrative and General" is the next large one. By the way, I do not wish to skip any of them. "Sales Promotion Expense", I do not believe I have discussed that.

Q: I think you did—I am sorry—yes, that is right, "Sales Promotion Expense" you did not yet touch upon.

A: That is, as you know, expense that is incurred on account of efforts to build load. I felt that we were maintaining a sales organization that was consistent with the efforts of a sales organization operating with a fully-loaded line, and that these expenses were attributable to unused capacity in much the same manner as were the other items that I have mentioned above.

[fol. 3092] The next item—

Q. (Interposing) Just a minute before you go to the next item.

In Line 21, you have included every dollar of sales promotion expenses incurred by Panhandle Eastern and its subsidiary companies, all of which you named yesterday?

A. That is correct.

Q. Including the distribution system sales promotion expenses?

A. That is correct.

Q. Now, have you completed that character of expense? Suppose you give us the next.

A. The next item is a large one, and amounts to about \$200,000 a year.

Mr. Wheat: By the way, you did not state the average of the sales promotion expense.

The Witness: That average is about \$35,000 a year, thirty-five to forty thousand dollars.

The next item is "Administrative and General", averaging around \$200,000 a year. I felt that the administrative and general expense that was incurred during these, shall we say, lean days, was largely incurred on account of, and was attributable to unused capacity, so I considered all of that expense in this study although I believe I explained before the total of none of the items is carried over into the final answer.

[fol. 3093] By Mr. Littman:

Q. Of course, your exhibit clearly shows that you work from line 19 with respect to expenses, make certain deductions and then secure your percentage of so-called unused capacity and work over, after applying the percentages of unused capacity by five methods, until you get over to Column G.

That is clear in your exhibit, isn't it?

A. Yes.

Q. Well, do these administrative and general expenses include all of such character of expenses incurred by, not only Panhandle Eastern Pipe Line Company, but its

wholly-owned subsidiaries, namely, Central Distributing Company, Central Pipe Line Company, Central States Gas Utilities, Macon Gas & Electric, Missouri-Kansas Gas Company, Panhandle Illinois Pipe Line Company and Texas Interstate Pipe Line Company?

A. That is correct.

Q. Does that character of expense which you described as administrative and general expenses include the salaries of executives?

A. It does.

Q. Of all of these companies?

A. It does.

Q. What other type and character of salaries are included in that?

A. That is a catch-all title, administrative and general. [fol. 3094]. We show there all of the expenses in connection with salaries and expense of doing business principally in the main office other than those which we have previously described in detail.

Q. Does that complete the list of expenses, Mr. Morton?

A. It does.

Well, there is a small item which bears the title "Non-operating Expense". Now, I was working pretty fast trying to get an answer to this thing, using over-all methods, rounding off percentages, and, generally, short-cutting it to the point where I thought the answer was correct, however, and just to avoid any argument on the subject, I just threw out all non-operating expenses.

I felt some of them were attributable to unused capacity but it is just another one of those items where I tried to lean over backwards to be on the safe side, and I threw the thing out for consideration entirely.

Q. Will you name one item you considered attributable to unused capacity in the non-operating expenses?

A. Non-operating?

Q. Yes.

A. I never even reviewed the items that are charged in the non-operating expense. I think if I talked about it a while and looked into it a little bit, I could tell you what is in it, but I thought since we are just going to throw it out



of this study anyway, lock, stock and barrel, in order to be [fol. 3095] on the safe side, we might just as well not spend any time hunting it up to see what it was.

Q. If you never looked at it and do not know what is included in that category of expenses and you are unable to name any at this time that have any connection with unused capacity of the pipe line system, how can you say that you were leaning backwards when you threw them all out?

A. I figured that is a fair statement to say that you are leaning backwards and on the safe side when you throw something out completely from your study without even examining it, since it would take so much time to do so and it seemed to me like that is leaning over backwards.

I feel sure, if we would analyze an account that has charges of ten to fifteen thousand a year in it, some of them could be said to be attributable to unused capacity, but it is just typical of the methods I used, Mr. Littman.

Q. You are sure if you looked long enough and hard enough you would find them in there?

A. Yes, I feel sure that some of the non-operating expense of this company during those years was attributable to unused capacity and had a direct relation to the fact that we had here a big project that was getting ready to go to town but had never gone yet.

Q. Suppose in browsing through those expenses which you have characterized in that last group, you had found [fol. 3096] some expense incurred in connection with manufacturing gas. Would you have included those in your study?

A. I would not have picked out any portion of a general heading like this and tried to split it down. I was not working to that fine a limit. No, I would still have left it out.

For all I know, there might be some expenses with that Macon Company right there automatically eliminated.

Q. Now, Mr. Morton, what daily line capacity did you use as 100 percent capacity?

A. I used as the basic figure, a capacity of 125 million cubic feet.

Q. And that is shown, is it not, in Line 18, Column F, on Page 1 of Exhibit 38?

A. Yes.

Q. What annual delivery did you adopt as standard or loaded, to use your term, year?

A. What annual delivery in cubic feet?

Q. In M.c.f.

A. Yes, I used the figure 39,219,025 M.c.f.

Q. Well, you are reading the wrong figure, I believe, Mr. Morton?

A. From that figure, I eliminated 2,057,116 M.c.f. to get the figure shown on Line 16 of 37,161,909 M.c.f.

Q. It was the latter figure, namely, 37,161,909 M.c.f. that you did finally adopt as the annual delivery for the [fol. 3097] standard or loaded year, is it not?

A. For one or two of the comparisons I have made in the five studies, yes.

Q. Well, I would like to be clear on it. You did not use the 39,219,025 M.c.f. figure for any purpose, did you, in this study?

A. Except the starting point.

Q. In other words, you were working toward the 37,000,000-odd figure?

A. The latter figure, yes.

Q. And you used that 37,000,000-odd M.c.f. figure as the annual delivery for the standard or loaded year for purposes of this study?

A. Of course, you may appreciate by looking at page 2 that that figure itself was again adjusted to reach the standard for comparison.

Q. Yes.

A. However, that is the basic figure and I think that is the basic figure and the starting point.

Q. Well, so we won't have any misunderstanding about it in the record, and I hope we won't—

A. (Interposing) Neither do I, Mr. Littman.

Q. I certainly think we can get together on this. In your Method No. 1—I have been referring to Methods 1, 2, 3, 4 and 5 in the order in which they appear on Page 2 [fol. 3098] of Exhibit 38. You do not have any objection to my referring to them in that way, do you?

A. No.

Q. Now, what annual M.c.f. sales figure did you use in working out your Method 1?

Mr. Wheat: Mr. Littman, just so the record will be clear, couldn't we have the record show that what you are referring to now is Method 1 is what Mr. Morton has headed, "Direct Investment-Volume Method".

The method that you are referring to as No. 2 is Mr. Morton's "Direct Investment-Revenue Method".

The method you are referring to as No. 3 is Mr. Morton's "Direct Investment-Max. Day Method".

The method you are referring to as No. 4 is Mr. Morton's "Adjusted Base Year-Volume Method."

And the method to which you are referring as No. 5 is Mr. Morton's "Adjusted Base Year-Revenue Method."

It seems to me that with that in the record, we can be completely clear.

Mr. Littman: Yes, indeed, I think that will assist materially in conducting this cross examination.

The Witness: To answer your question, Mr. Littman, Page 2 plainly shows there on Line 28 that I did use the figure that we were speaking of, of 37,161,909 M.c.f. brought over from Line 16.

[fol. 3099] It is self-explanatory almost there, if you notice.

Mr. Littman: Sometimes.

Mr. Culton: Line 5 divided by Line 16 is what you referred to?

The Witness: Yes.

By Mr. Littman:

Q. And that same 37,161,909 M.c.f. figures is also used in connection with Method No. 4, is it not?

A. Yes.

By Mr. Littman:

Q. At the time we reached the recess, you had given us the three basic figures for the so-called loaded or standard year, namely, the figures for the total daily capacity and for the annual delivery and for the annual revenue.

Now, what was the delivery load factor during your standard or so-called loaded year?

A. I do not recall having that figure. I cannot tell you right off what the load factor was during the standard or loaded year.

[fol. 3100] Q. Mr. Morton, wouldn't it be calculated in this way? You have a slide rule there and a calculator there, and you tell me if I am wrong.

Take the 37,161,909 M.c.f. shown in Column F, of Line 16 and divide by 365 days to get the average M.c.f. sales per day. That would be your first step?

A. Correct.

Q. Now, what would you get?

A. 102—

Q. You are working the slide rule, aren't you?

A. Yes.

Q. We get 101,813 M.c.f. as the average daily delivery. Wouldn't you divide that figure by the 125,000 M.c.f. shown in Column F, Line 16, called "Maximum Line Capacity-Daily M. C. F." to secure the delivery load factor for the standard or loaded year?

A. Now, I defined load factor the other day as being the ratio between the maximum delivery and the average delivery for any given period. The figure you have read would be to divide the average day by the maximum line capacity so that the answer to your question is "no."

Q. Suppose then, Mr. Morton, you use the actual peak day delivery shown in Line 17, Column F in the amount of 121,455 M.c.f. instead of the 125,000 M.c.f. and tell me what load factor you would get?

[fol. 3101] A. The answer is 84 percent, in round numbers.

Q. Yes, we get 83.84, certainly close enough.

Now looking again at Line 18, I notice that you have in Columns A, B, C, D and E, during the entire 4½ year period from April 1, 1932 to September 30, 1936, inclusive, the figure of 80,000 M.c.f. as the "Maximum Line Capacity-Daily M. C. F." Is that correct?

A. Yes, sir.

Q. What does that 80,000 figure mean? What does it really represent?

A. That represents the capacity of the pipe line during those years, the maximum daily capacity of the pipe line during those years.

Q. In other words, if I correctly understand you, that is the most gas that Panhandle Eastern Pipe Line Company could be expected to get through their lines in any given 24-hour period?

A. Yes, sir.

Q. I presume there are some minor exceptions to that, are there not, Mr. Morton?

A. Yes.

Q. Because I notice immediately above the 80,000 figure, in Column E, the actual delivery in the maximum day as shown in Line 17 exceeded somewhat the rated capacity, if you don't mind my calling it that?

[fol. 3102] A. Yes, that is true.

Q. But, for all practical purposes, the 80,000 represents the true daily capacity during that 4½ year period?

A. Yes, sir.

Q. Now, looking to the extreme right of Line No. 18, I note that the capacity of your system increased from 80,000 M. c. f. to 125,000 M. c. f.

That is to say, between the period shown in Column E, to-wit, January 1, 1936, to September 30, 1936, and the period shown in Column F, namely, October 1, 1936, to September 30, 1937, the capacity of the system was increased by 45,000 M. c. f. per day, is that correct?

A. Yes, that is true.

Q. I should have called that daily capacity?

A. Yes.

[fol. 3103] Q. Now, we were discussing the fact that the daily capacity has increased from 80,000 M. c. f. to 125,000 M. c. f. as shown in Columns E and F.

Now, assuming Mr. Morton—before we go to the next question—that was an increase of approximately 56 percent, was it not?

A. Yes, sir.

Q. Assuming that the pipe line was delivering at 100 percent capacity throughout 365 days in any year between

April 1, 1932, and September 30, 1936, what amount of gas would have been delivered annually on that basis?

A. 29,200,000.

Q. That is secured, is it not, by multiplying 80,000 M. c. [fol. 3104] f. daily capacity in the  $4\frac{1}{2}$ -year period by 365 days, is that correct?

A. Correct. I should have said, 29,200,000 M. c. f.

Q. Doesn't that figure of 29,200,000 M. c. f. represent 7,961,909 M. c. f. less than the annual deliveries which you took for the standard or loaded year's delivery?

A. That is correct.

Q. You took for your standard or loaded year a delivery figure of 37,161,909 M. c. f. shown in Column F, Line 16, did you not? A. Yes, sir.

Q. In other words, in order for the pipe line to have delivered the amount of 37,161,909 M. c. f. which it delivered in your loaded year, the pipe line would have been called upon to deliver 7,961,909 M. c. f. in excess of its total annual capacity in any of the years prior to October 1, 1936, is that correct?

A. That is the result you get from this mathematical computation, yes, sir.

Q. Well, isn't it true?

A. Yes, that is true.

Q. In other words, to put it in more simple language, the system, as it existed during the entire  $4\frac{1}{2}$ -year period shown in Columns A, B, C, D and E, from April 1, 1932, to September 30, 1936, could not have delivered anything like 37,161,909 M. c. f., could it?

[fol. 3105] A. It could not.

Q. You would not mind telling us, would you, for the purposes of the record, what percentage does the 7,961,909 M. c. f. represent of the 29,200,000 M. c. f. figure? We get, 27 percent. Is that right? A. 27, plus.

Q. Assuming that prior to October 1, 1936, the pipe line had been delivering gas at the load factor which you have stated for the loaded year, namely, 84 percent, what annual delivery would have resulted?

A. You are asking now—I just want to get the record straight, or be sure I understand you—how much gas would have been delivered in a 12-month period if—

Q. (Interposing) Prior to October 1, 1936.



A. Prior to October 1, 1936, if the pipe line had operated at 84 percent of its capacity. I get out of that, 24,600,000 M. c. f.

Q. That is pretty close. We have 24,528,000 M. c. f. Is that not about right?

A. That is satisfactory.

Q. The slide rule does not come quite as close, does it, in such large figures? A. That is true.

Q. Now, this amount of 24,528,000 M. c. f. represents how much less than the annual delivery in your loaded year?

[fol. 3106] A. That would be 37,161,909 less 24,600,000, both in M. c. f., or approximately 12,500,000 M. c. f.

Q. And that amount of 12,500,000 M. c. f. represents what percentage of 24,528,000 M. c. f.?

A. That is approximately 51 percent.

Q. Have you ever seen Exhibit No. 58, Mr. Morton, which—

A. (Interposing). I believe I have. I do not recall at the moment, however.

Q. Suppose I hand you my copy of it. It is an exhibit which was prepared and submitted by Witness Watkins entitled, "Statement of Gas Revenue, Period from April 1, 1932, to June 30, 1941".

Now, before I inquire about any figures on this exhibit, did you help in the preparation of this exhibit, Mr. Morton? A. I did not.

Q. You have seen it before, however?

A. I have seen it.

Q. Can you state, as the company's rate engineer, whether or not the average M. c. f. figures shown in Column R in Exhibit 58, Schedule 1, are correct?

Mr. Wheat: I read that "average Per M. c. f."

Mr. Littman: Average per M. c. f., that would be more accurate.

The Witness: Undoubtedly, those figures are correct.

By Mr. Littman:

[fol. 3107] Q. What would you consider to be a representative average figure per M. c. f. for the 4½ year period prior to October 1, 1936, during which period you state the pipe line capacity was not used to full capacity?

A: Between  $21\frac{1}{2}$  and 22 cents per M. c. f.

Q: Well now, using that figure and assuming that the pipe line had been operated at a 100 percent load factor, that is, at 100 percent capacity throughout the entire  $41\frac{1}{2}$  year period prior to October 1, 1936, will you state what annual revenue would have resulted in each of the periods shown in Columns A, B, C, D and E, in your Exhibit 38, using the average revenue of 22.6 cents?

Mr. Littman: You said 22 cents?

The Witness: I used the figure  $21\frac{1}{2}$  to 22 cents?

Q: We will use the 22-cent figure, I am sorry.

A: I would just as soon use the 21.6 if that is what you have there. In these engineering calculations, the round figures, we frequently use them.

[fol. 3f08] Q: Suppose you use the figure 22, Mr. Morton, which is your figure, the 22-cent figure which is the one you said would be the most representative of the average revenue for the  $41\frac{1}{2}$  years.

Trial Examiner: The statement, as I recall, was between  $21\frac{1}{2}$  and 22, is that right, Mr. Morton?

The Witness: Yes, that is so.

Trial Examiner: If you are going to make some extended computations, I suggest you get at your average figure accurately and use that instead of an assumed figure.

By Mr. Littman:

Q: Which one would you feel would be more representative?

A: I feel we could use 21.75 satisfactorily.

Q: All right, then suppose we use that amount.

A: Now, I am multiplying for the calendar years 29, 200,000 M. c. f. by 21.75 cents. The result is \$6,350,000. That would have been the revenue each of the calendar years on the premise that you have made, and for the two, nine months' period, we would have had 75 percent of \$6,350,000, which would be \$4,760,000 that the revenue for the entire period would have been three times \$6,350,000—

Q: (Interposing) I do not particularly care for a cumulative figure, Mr. Morton.

A. I was thinking you had asked for it.

[fol. 3109] Q. Well, let's see. In other words, if Panhandle Eastern Pipe Line Company had been using its lines at 100 percent capacity throughout every day of the 4½ year period prior to October 1, 1936, which period you use as the "Not Fully Loaded Period", the total revenue would have been \$6,350,000 per year, per calendar year?

A. Correct.

Q. Whereas, the revenue in your loaded year of October 1, 1936, to September 30, 1937, was \$8,953,083 as shown in Line 10, Column F, is that correct?

A. Yes.

Q. In other words, to put it more simply, Panhandle Eastern Pipe Line Company could not have possibly reached any revenue approximating the \$8,953,000 which it reached in your loaded year—it could not have accomplished that with its existing capacity in any of the 4½ years which preceded the loaded year. Is that a correct statement, in more simple form?

A. That is true.

Q. In other words, I am correct, am I not, in stating that the revenue in the loaded year of \$8,953,083, as shown in Column F, Line 10, is 141 percent of the total revenue that could have possibly been obtained in any preceding year even if the system had been operating at 100 percent capacity in every day of those years and sold the gas at the prevailing price that you mentioned?

[fol. 3110] A. That seems to be approximately correct.

Mr. Wheat: What was that percentage, Mr. Littman?

Mr. Littman: 141.

Mr. Wheat: Thank you.

By Mr. Littman:

Q. Assuming that the pipe line had been operated at an 84 percent load factor which you calculated for us a few moments ago, during the entire 4½ year period prior to October 1, 1936, will you please state what annual revenue would have resulted in each of the periods shown in Columns A, B, C, D, and E, using your average revenue of 21.75 cents per M.c.f.?

A. I believe that is the figure that I had started to give you a while ago; that is \$6,350,000 for each of the

three periods, B, C, and D, and 75 percent of that is \$4,760,000 for the two periods A and E, that is, the two nine-months' periods.

Q. I do not believe you are answering the specific question I have put to you, Mr. Morton. I appreciate that this line of inquiry may be rather difficult to follow, but I am going to ask that the question be read again and see if you wish to make a correction.

By Mr. Littman:

[fol. 3111] Q. You see, what I want is the annual figure. You do not need to give us the figure for each column. I want the annual figure.

A. I was apparently giving the 100 percent load factor figure. As I understand it now, we would multiply the capacity of 80,000,000 by 84 percent by 365 to obtain 24.6 million M.e.f. which, in turn, we multiply by 21.75 which I calculate here on the slide rule to give us an annual revenue of \$5,350,000.

Q. In other words, to state it more simply, the \$5,350,000 revenue figure which you just named is that revenue which Panhandle Eastern would have derived per year prior to October 1, 1936, if the system had been operated at an 84 percent load factor and assuming the revenue of 21.75 cents per M.e.f.?

A. That is approximately correct, as I see it.

Q. Now, this revenue in the loaded year shown by you in Column F, Line 10, of \$8,953,083 represents what percentage of the revenue figure which you just named in the amount of \$5,350,000?

We get 167 percent.

A. I get 167 percent.

Q. Well, it is clear, is it not, from these calculations, that in your study as shown in Exhibit 38, you have compared the use of the system as it existed in the 4½ years [fol. 3112] prior to October 1, 1936, with the use of a system having more capacity than was actually available and installed during those 4½ years, is that correct?

A. Not directly, not without proper consideration of the fact that during the loaded year more capacity had been

put into the line, not without adjustment for the additional capacity.

I have not made a direct comparison between, let us say, a large apple and a small peach. I have adjusted that apple to the size of the peach before making any comparisons.

Q. Did you make any adjustments, such as that which you have described in connection with your methods Nos. 1, 2 and 3?

A. In No. 1, we might discuss them separately, here is what I did: In No. 1, I show the investment per M.C.F. during a loaded year and the other years.

Q. Without adjustment?

A. No adjustment is necessary for that kind of a comparison.

Q. Well, we may quarrel about that a little later, but the fact of the matter is, that you made no adjustment in your Method 1, did you?

A. Only the adjustment that is inherent in comparing investment per thousand during one year with investment per thousand during another period.

[fol. 3113] On its face, it would be quite an unfair comparison to adjust either one of those figures either up or down. That is a very simple thing.

The investment per thousand cubic feet sold during this year as compared to the investment per thousand cubic feet during some other period, there is no adjustment there, that is a very simple calculation.

Q. Mr. Morton, what do you mean by the term "capacity" as it is used in the title of Page 2 of Exhibit 38, "Five Different Methods of Calculating Interest, Ad Valorem Taxes and Operating Expense Attributable to Unused Capacity"?

A. I can best describe that by saying that capacity, as we use the term here, is not limited strictly to the physical carrying capacity of the pipe line.

That term as used here, embraces the conception of capacity to earn money as well as the capacity to carry gas physically through the line.

Q. Then it does not mean capacity of the pipe line, does it?

A. It's not limited strictly to capacity of the pipe line.

Q. Well, does the term "capacity" as you have used it in that caption include capacity in the sense that it has reference to the capacity of the pipe line?

A. It does.

[fol. 3114] Q. You are referring then in your caption to unused capacity of the pipe line system of Panhandle Eastern or not?

A. I have just explained what I meant by capacity as used here, Mr. Littman. I hesitate to repeat it again. We can have it read back again—

Q. (Interposing) I am afraid I did not understand your answer, Mr. Morton, which is why I am asking the question again in a little different way. To me, it seems that the word "capacity" expresses capacity of a pipe line.

You say, as I gather it, it might or might not. I want you to tell me what you mean by it.

A. I might amplify that, yes, to this extent.

You will notice in Method 2 there, for example, "Direct Investment Revenue Method", in that method I compare the investment that has been put in this pipe line per dollar of revenue taken from the sale of gas, the investment per dollar during a year when the pipe line was earning and going to town, as we say, with periods when the pipe line was not earning and was not doing so well, when its inherent capacity for earning was there but was an unused earning capacity.

Q. Then you are speaking, in Method 2, of earning capacity, are you?

A. There is no reference in Method 2 to the physical daily maximum ability of the pipe line to carry gas. Some [fol. 3115] of these methods are not related at all to the physical ability of that pipe line to carry gas, except in so far as earnings are related to ability to carry gas.

Q. Well, let's be specific and let's look at Method 2. In Line 34, you use the term "Percent Used Capacity". Now, what kind of capacity are you talking about there?

A. That method has no reference to any particular capacity other than the one that I have described as capacity.



Let's examine a little closer and see if I can get what you are heading at, Mr. Littman. In Line 1, we show the investment per dollar of revenue received.

Mr. Culton: You mean, Line 33?

The Witness: Line 33, thank you.

We show investment per dollar of revenue that was inherent in this pipe line during those various periods. That is to say, let's select, for example, the year 1934.

We had an investment in this pipe line of \$15.78 per dollar of revenue taken from it.

By Mr. Littman:

Q. In twelve months?

A. In twelve months, but during another twelve months period, when the line was loaded and when it was earning a revenue somewhat commensurate with the plan of those who started the project, the investment per dollar of revenue at that time was \$4.92, so that in 1934 we had three [fol. 3116] times as much investment per dollar of revenue taken out of the line as we had during the year when the line was doing what it was supposed to do.

Therefore, we conclude that we had only about 30 percent of its capacity used during the year 1934, or, another way to put it, about 70 percent of that investment per dollar of revenue that was inherent in this situation in 1934 was there because of some future time and not being used in the year 1934.

Q. Well, you use the \$4.92 shown in Line 33 as 100 percent, do you not?

A. You may call it that.

Q. What do you call it in this exhibit? What do you call that?

A. I have never called it—I see right underneath I have 100. That is O. K., 100 percent.

Q. What do you label it in this exhibit?

A. 100 percent, a base for comparison.

Q. What do you label it in this exhibit? What do you call it in this exhibit, 100 percent?

A. Do you wish me to read Line 34?

Q. Yes.

A. Percent used capacity.

Q. Yes. Now, what does that have to do with capacity, Mr. Morton? Where does capacity enter into that figure at all?

A. I think, Mr. Littman, it is apparent on its face, I [fol. 3117] cannot go any farther than to point out to you what that line says and again repeat that the figures shown on Line 34 represent my calculation of the percent of used capacity in the system at those different periods.

Q. Now, the term "Percent Used Capacity", as you have used it in Line 34, does not have anything to do with the capacity of the pipe-line system to carry gas, does it?

A. Only in so far as whatever relationship there is existent between investment and revenues and ability to carry gas.

Q. Could you answer my question yes or no?

A. I do not believe I could answer your question yes or no.

Q. Well, your 100 percent "percent used capacity" relates to a dollar figure, \$4.92, doesn't it? A. Yes, sir.

Q. And the \$4.92 merely represents the amount of investment per dollar of revenue received for the gas which was actually sold in the period October 1, 1936, to September 30, 1937, and that is all it represents, is that correct?

A. That is correct.

Q. As a rate engineer, do you think it is proper to call such a figure 100 percent used capacity, Mr. Morton?

A. I think it is all right to use this figure in arriving at my conception of the percentage of used and unused capacity [fol. 3118] during these different periods.

Q. I understand that, but I am asking you whether or not you consider the terminology or the description which you have used of "percent used capacity" as properly descriptive of \$4.92 which was derived in the manner I have described?

A. Yes, I think, as I have used it here, it is properly done.

Q. Well, what would you call the percent that would be arrived at by making an actual determination of the actual daily capacity of a pipe line? Would that also be "percent used capacity" for 100 percent?

A. That could be used as one of the methods, yes, sir.

Q. In one instance, you would have the total capacity in M. v. f. as representing "percent used capacity" and, in

another case, you would have \$4.92 and you would call it the same thing?

A. That would be all right.

Q. Well, I guess you could call anything most anything you want, Mr. Morton, but I want to make certain that we understand that you do not claim that the figures in line 34 represent used capacity of the pipe line itself.

A. Well, of course, we both realize that there can be a great deal of play on terminology, Mr. Littman.

Q. Let's look at the term that you use in Line 29, "Percent Used Capacity". At the end of that line, you have [fol. 3119] in Column F, 100. Is that 100 percent used capacity? Is that what you mean by that figure?

A. Yes, that means what it says.

Q. But it says exactly what Line 34 says, doesn't it?

A. Yes, it says the same thing. I have used the same description all the way through.

Q. Does it mean the same thing?

A. Yes, it means the same thing.

Q. Well, you have \$1.18 there whereas you had \$4.92 down below; do you still say it means the same thing?

A. Yes, it is just another way of doing the same thing.

Q. Using the same words to describe it?

A. That is all right for this study.

Q. When you use the term, "Percent Used Capacity", you are not referring to the physical capacity of the pipe line, are you?

A. Only in so far as it might be related to investment or earning power. There is a certain relation, we must both of us concede, that there is a very close relation between capacity of the line, the physical ability to carry gas, its capacity to earn and the investment that is in there for the purpose of establishing a going and earning proposition.

Q. Now, in the line immediately above Line 29, that is, in Line 28, you have the term "investment per M. c. f.", and that is derived, is it not, simply by taking the investment [fol. 3120] ment in each of the periods shown on the previous page and dividing that investment by the number of M. c. f.'s sold in that year?

A. That is the way to do it, yes, sir.

Q. That gives you \$1.18? A. Yes, sir.

Q. And you call that 100 percent capacity?

A. Yes, sir, \$1.18 investment per M. c. f. during the loaded year is 100 percent capacity in this study.

Q. Now, I believe you said that that \$1.18 has something to do with the physical capacity of the pipe line. Let's see whether it has. As you just stated, the \$1.18 is obtained by a straight mathematical division.

Q. Was the total number of M. c. f.'s sold in the year October 1, 1936, to September 30, 1937, the total amount of M. c. f.'s that could be sold? Does it represent the capacity of the pipe line? You can answer that yes or no, can't you?

A. No.

Q. Now, does the investment figure which you use in Column F, line 16—I beg your pardon, Column F, Line 5—does that investment have anything to do with the capacity, physical capacity, of the system? You can answer that yes or no, can you not? A. Yes.

Q. In other words, I presume what you mean now is that since this particular amount of money that you used, [fol. 3121] that is, \$44,022,170, in Column F, Line 5, represents total investment, that that investment had a certain capacity and that, therefore, the investment has something to do with capacity. Is that generally true?

A. That is a little more specific than I believe that I would care to make it. What I am answering is the general question, as I understand the question I am answering—is there any relationship between investment and capacity—and I just can answer that right out by saying that, in general, as your investment goes up your capacity goes up. There is usually, on pipe lines, some relationship between them.

Q. But it is not a direct relationship necessarily, is it?

A. I know that it is not a direct relationship.

Q. Now, let's look at your third method. There you used the same phrase, "Percent Used Capacity" in line 39, 100 percent. This time, it means \$362, doesn't it?

A. It means that the investment per M. c. f. on the maximum day during the loaded year was \$362, that I used that as 100 percent capacity.

Q. In deriving that figure, did you use the actual capacity of the system for any 24-hour period?

A. I used the investment of the system divided by the maximum day on the system.

Q. Maximum day delivery?

[fol. 3122] A. Maximum day delivery.

Q. Not the maximum capacity of the system?

A. That is correct. That figure represents the investment that was in this project in the loaded year per thousand cubic feet carried on the maximum day's delivery.

Q. Well, obviously, the figure of \$362, which you call "Percent Used Capacity", does not refer to the physical capacity of the pipe line system, does not?

A. It does not refer directly to the 80 million a day or the 125 million a day which we frequently refer to as the capacity of the system.

Q. In other words, your answer is, "no, it does not refer to physical capacity"?

A. That is correct.

Q. Now, let's look at the fourth method. There you used the identical term in Line 44, "Percent Used Capacity" and you have 100 percent.

This time it refers to 23,783,622 M.c.f., does it not?

A. Yes, it does.

Q. And that was not the M.c.f. capacity, was it, of the system for the year October 1, 1936, to September 30, 1937?

A. No, that was not the physical capacity of the system.

Q. In your Method 5, you used the same term again, "Percent Used Capacity" and there, this time, it means \$5,729,973. Those dollars are what, revenues?

[fol. 3123] A. Yes, that is revenue.

Q. Revenues for 12 months, are they not?

A. Yes, sir.

Q. That would have been derived upon certain assumptions? A. Correct.

Q. Now, you would not say that, in these circumstances, the 100 percent refers to any such thing as the capacity of this pipe line system, would you?

A. Mr. Littman, you have asked me that several times.

Q. But we are on a new method. We are on the fifth method, you know.

A. If we are trying to get at the facts here, let's get at them. I have previously told you what my conception of capacity as used in this study is, and I have not changed it since we started the examination on these five different methods.

There is a relation, as I said before, and I want to make it plain that I do believe and I think it is generally conceded that there is some relation between earning power, investment and ability to deliver, or capacity.

There is some relation there that is very plain to anyone who has fundamental ideas about pipe lines. In general, the greater your capacity, the more money you have to have in the system.

[fol. 3124] Now, there is a relationship. I cannot say that none of these methods are not related at all to physical capacity. I do not want to say that.

Q. Well, they are not very much related to physical capacity, are they?

A. I do not know how much.

. . . . .

[fol. 3125] Q. Mr. Morton, will you please turn to Page 2 of Exhibit 38. In Line 28, you used the term, "Investment Per M.C.F." Does that refer to the M.c.f. annual sales?

A. Yes.

Q. Well now, two of these periods that you have, namely, the period shown in Column A and in Column E, are not annual periods, are they? A. That is correct.

Q. What M.c.f. sales did you use for those two periods?

A. Well, I did there what I have explained before. It is not comparing a big apple with a little peach. I reduced them to the same basis.

On my direct examination covering this, I stated that I had made proper adjustment for nine-months' periods, so that, what I have done is to take a nine-months' period and set it up to what it would have been over a year's period at the same rate.

[fol. 3126] Q. Where did you make that adjustment?

A. Well, now, that remark I made is to apply to those places where such adjustment is necessary to reach a proper answer.

Now, in this direct investment—volume method—

Q. (Interposing) That is No. 1?



A. No. 1, the intermediate step does not show. Let's see if I can show you how we got that. I have divided Line 5 by Line 16.

Q. In each case?

A. And for the Column E, let us examine that. I take 40 million and divide it by 15.5. Now, there is one—

Q. (Interposing) Would you mind spelling out those figures?

A. Yes, I take 40 million from Line 5 and divide it by 15.5 at Line 6.

Now, that gives me 259, which we get—

Q. (Interposing) What is this 15.5 that you are talking about? I would like to have you read the entire figure, if you don't mind.

A. All right. I have divided the total investment shown on Line 5, just as the exhibit shows—

Q. (Interposing) Column F?

A. Column E.

[fol. 3127] Mr. Wheat: That is \$40,109,403?

The Witness: \$40,109,403 by the figure found on Line 16, Column E, which is 15,512,181 M. c. f.

By Mr. Littman:

Q. That gave you what? A. That gave 259.

Q. \$2.59? A. Yes; \$2.59.

Q. Now, you do not mind if I make it clear, that is the figure shown on Column E on page 2, Line 28?

A. That is correct.

Q. Before you go to the next step, that figure of \$2.59 is not investment per M. c. f. of annual sales, is it?

A. Let me examine that a minute.

Q. Perhaps we could save time, Mr. Morton, by suggesting that possibly you made your adjustment in the 60.74 figure which appears in Line 29, Column E.

A. Yes, thank you, Mr. Littman, that is correct. I was disturbed for a moment there to see that the \$2.59 is not the investment per M. c. f. of annual sales. That figure is the investment per M. c. f. of nine months' sales.

The adjustment to take care of the nine-months' period is made in the next line.

Q. And the adjustment is not in the \$3.59 figure?

A. That is correct. I do not doubt, if you will wait [fol. 3128] just a moment and I will check this, that I have taken 75 percent of the \$2.59 to get a figure which would be comparable to \$1.18 which shows in Column F and, sure enough, that is the way it works out.

Q. So that we may agree, may we not, Mr. Morton, that the \$2.59 figure shown in Column E, Line 28, as investment per M. c. f. is not comparable to the \$1.18 figure in the same line in Column F, is it?

A. That is correct and let me add that the percentages underneath that are derived from these figures with proper adjustments, however, are comparable, in my opinion.

Q. And is the same situation true with respect to the \$10.61 figure which appears in Line 28, Column A, for the nine-months' period, April 1, 1932, to December 31, 1932?

A. Yes, that is true.

Q. And that figure is not comparable to the \$4.43 figure which appears in Column B on the same line?

A. That is correct.

Q. Now, are there any other instances where that situation prevails as between nine months and one year's period? Don't you have the same situation—

A. (Interposing) We do all the way through, and I believe it is in four of the five methods, as I recall it now, but I am sure in at least four of the five methods it was necessary to adjust for nine months' periods. Of course, [fol. 3129] it is apparent on the face of it that it is not fair to compare a nine-months' figure to an annual figure.

Q. Yes, and we wanted to make certain that we understood the mechanics behind these figures so that we would not improperly compare them.

Now, turning back to Page 1, if you please, I think you have a typographical error probably in one of these figures. You do not mind if we make a correction, if that is the case, do you, Mr. Morton?

A. Not at all. I would not be surprised to find an error.

Q. Well, suppose you look at the figures in Column D on Page 1, particularly the figure in Line 14, "Argus, Local Area and Transported", in the amount of 25,510,846 M. c. f.

A. Yes.

Q. Isn't there a correction to be made on that figure?

A. Yes, undoubtedly there is some correction to be made there. I am looking back through my working papers to find the correction.

The figure on Line 14 should read, "15,510,846 M. c. f."

Q. That is the figure in what column?

A. Column D, Line 14.

Q. That should be 15,510,846 M. c. f.?

A. Yes, sir.

. . . . .

[fol. 3130] Q. Now, Mr. Morton, just before the noon recess we were talking about comparing the use of the system as it existed in the  $4\frac{1}{2}$  year period prior to October 1, 1936, with the use of the system having more capacity than was actually available and installed during those  $4\frac{1}{2}$  years, and I believe you stated that an adjustment had been made to take care of that situation, did you not?

A. Yes, sir.

Q. And I believe you stated that that adjustment had been made to compensate for that comparison in all five methods?

A. Wherever I thought it was required. I can trace it [fol. 3131] through to find out whether it was in five, or just four of the five. I believe it is immaterial at the moment.

Q. Let me get at it this way: The adjustment that you spoke of with respect to Method 1 was the weighting of the investment in the respective years; was it not? That is, you took into consideration the amount of investment in plant in each of the years compared. Was that what you referred to when you said you took into consideration the difference between the situation as it existed in the  $4\frac{1}{2}$  year period prior to October 1, 1936, and in the year after October 1, 1936?

A. Yes, in that method I took into consideration the investment per thousand of cubic feet sold during each period.

Q. But isn't it true, that in that method, namely, Method No. 1, you did not take into consideration or make an adjustment of those periods on the basis of the actual physical capacity of the system?

A. We are back where we started on that. Would it help any, Mr. Littman, if we just would strike out the title that we have used on Lines 29, 34, 39, 44 and 49 and just, instead of saying, "Percent Used Capacity", just leave that line blank and not name that at all.

This phraseology that I have used here or terminology, "Percent Used Capacity" is an engineer's choice of words attempting to describe something that he thinks pertinent to the answer, and I did not spend a great deal of time in [fol. 3132] selecting that title.

Now, if it would help us any, I would be glad to make that line blank, just show percentages, because it is only a working step to the answer that you find on that line entitled "Percent Used Capacity" all the way through.

Q. I think it would be helpful, and I think it would eliminate some confusion that has resulted among the staff and myself. I certainly concur. If you wish to suggest a different title or one that more closely describes the situation, why, that would be satisfactory, but if you say it is purely a working step, I think we could strike it.

A. That is my suggestion. Now, any name that you might designate for it—

Mr. Wheat: (Interposing) You would leave, wouldn't you, the parentheses showing what you did in that line?

The Witness: Certainly, only to help in tracing through the computation, however.

By Mr. Littman:

Q. Now, this striking of "Percent Used Capacity" would apply to each of the five methods, would it not?

A. Yes.

Q. That is Line 29. How about Line 30, "Percent Unused Capacity." That is the same situation, is it not?

A. Now, let's consider that a moment. That "Percent Unused Capacity" is one of the basic figures I am using to [fol. 3133] get at my answer and I would not care to strike that line without giving it some thought.

Q. Well, let's strike the "Percent Used Capacity" for the time being.

Mr. Culton: We are not striking that. He said, if you want to strike it completely, the words mean nothing. If

you do not understand them—we think that the words are very accurate and the fact that you do not understand them does not mean that we do not understand the way they were used, so we are leaving them in the exhibit as they are.

If you cannot understand those three words and want to strike them from your mind and leave what he says there as being what he has done there, that is O. K.

Mr. Lee: Why can't you clarify it by putting in a definition of what you mean?

Mr. Culton: We think he has made a very clear definition, and if counsel cannot understand it, it is frequently like I am when somebody of another profession says something, it is just one of those things that sometimes happens to us lawyers.

Mr. Littman: We understand it, that is not our difficulty, Mr. Culton, but we could never understand why he called it what he did.

Mr. Culton: I have lots of times been unable to understand testimony. That is just one of the unfortunate results of being a lawyer and trying cases where other professions are involved.

Mr. Lee: The question is, doesn't it leave the impression that it is the capacity of the line he is talking about. That is the impression I got from the exhibit.

Mr. Wheat: Isn't it true, Mr. Littman, that since the examination has been had and the witness has explained so fully what he did and everything, there is certainly nobody that is fooled by this terminology and, as the witness has stated, if you have some suggestion as to some other terminology, I am sure we would be glad to consider it.

I do not think anybody is under any misapprehension at all as to what the witness was trying to do and what he did and he has stated that there is a general relationship all the way through between these various things that he has for his own purposes labeled, "capacity."

Mr. Littman: I personally think your witness' suggestion is an excellent one, but if you do not believe that it is

a good one, why, I presume you can do as you please about it.

By Mr. Littman:

Q. Well, getting back to our question, comparing the system before September 30, 1936, with the system after October 1, 1936, in the first three methods shown on Page 2, you did not make any adjustment in direct proportion to the difference in physical capacity of the pipe line as it existed in those two periods?

[fol. 3135] A. That is correct. I felt that the fact that I was stating "Investment per M.c.f." was a sufficient comparison between one period and another, without making any kind of adjustments.

As a matter of fact, an adjustment in a situation like that would, in my opinion, have been out of order.

Q. An adjustment of what kind would have been out of order?

A. An adjustment in a situation like that would have been out of order.

Q. Now, Mr. Morton, looking at the adjusted base year method which we have called Nos. 4 and 5, I notice that you have an adjusted base year method starting in Line 42 that seems somewhat comparable to Method 1, that is, Method 1 is "Direct Investment-Volume Method"; Method 4 is, "Adjusted-Base Year-Volume Method".

I also note that you have an "adjusted base year-revenue method" which seems to be comparable to the method of No. 2 which was a "direct investment-revenue method."

Now, why didn't you show a sixth method on this page, namely, "Adjusted Base Year-Max. Day Method"? It appears to me like one of these is left off.

A. In making that comparison, I have compared the investment to the Max. day for each of those periods. That is to say, I show what the investment is per M.c.f. of gas [fol. 3136] delivered on the Max. Day.

Mr. Wheat: You mean, you are talking about Method 3 now?

The Witness: I am talking about Method 3. For example, taking the year 1934, I took the total investment



that we had in 1934 and I divided it by the maximum day that obtained on the pipe line in 1934 and I found that the investment per maximum day delivery was \$779.

Now, during a loaded period which would be that shown in Column F, I divided the investment of that year by the M.c.f. sold on the maximum day and I got \$362.

Now, it is quite apparent that the 1934 figure is almost twice as large as the loaded year figure. Therefore, I said about half of the investment was being used and about half of it was not being used during 1934 and it seemed to me that no adjustment of any kind, such as you have questioned me about, was necessary to complete the comparison.

Mr. Wheat: Mr. Littman, I believe possibly the witness has confused what you said in your question.

Mr. Littman: I am afraid he has.

Mr. Wheat: May I just ask a question that may clear that up. As I understood Mr. Littman, he asked you why you did not add a sixth method which would be "Adjusted Base Year Max. Day Method."

Well now, if you had tried to make a sixth method on that basis, your answer just now given would show that [fol. 3137] you could not have an adjusted base year of a maximum day, could you? You were using a maximum day, weren't you?

The Witness: There might have been some adjustment that another calculator could have made there, so I cannot say there could not have been such, but I cannot concede, any logical way of setting up a method that compares to Method No. 3.

By Mr. Littman:

Q. Let me ask you this, Mr. Morton, these five methods that you have set forth on Page 2 of Exhibit 38 are not the only methods that you have worked up, are they?

A. I have worked out other methods; roughly, however.

Q. Have you ever worked out the method that I just described?

A. No, sir I never worked out an adjusted Max. Day method.

Q. What would you think of such a method? You have told me you did not think it was necessary to make an adjustment of your Method 3, but here is another method that seems to follow quite logically from your Method 3. What would you think of such a method?

A. I would have to see how it would work out. I would have to have more details. Offhand, it seems to me you have done a fair job and done all that you can do along that line when you take the investment of each year and [fol. 3128] divide by the maximum day of each year.

Then you automatically take care of any fluctuations in investments and Max. Day. You are comparing a unit there, which unit is investment per Max. Day of sales on this pipe line.

Q. Well, you worked out a so-called supplemental method for Method 1 which you have put in here as Method No. 4. They are more or less comparable, aren't they?

A. They are comparable at some points, yes.

Q. In other words, in the fourth method you use the Volume Method, do you not?

A. Yes, I do. I relate the volume of each year to the volume of the loaded year with proper adjustment before that relation, however, of the loaded year.

Q. Now, with respect to your second method, called "Direct Investment Revenue Method", you have offered a supplemental method called "Adjusted Base Year Revenue Method", which has many features in common with your No. 2 Method?

A. Yes, I would say so.

Q. But you did not do that, Mr. Morton, when you came to your third method, called "Direct Investment-Max. Day Method". I wonder whether you have told us fully why you did not do it? Have you given all of the reasons that you can think of as to why you did not do it?

A. The mere fact, Mr. Littman, that four resembles one and the fact that five resembles two, would not make it [fol. 3139] necessary that you set up a six to resemble three. Your logic is that since I have two pairs here, I should have three pairs.

Q. You do not mind my natural curiosity, do you, in that regard?

A. Not at all, just go right ahead.

Q. You could now express no opinion as to the validity of such a method or do you want to express an opinion as to the validity of using a comparable so-called adjusted "Base Year-Max. Day Method"? What would be wrong with doing that?

A. I believe that such a study could be set up. Of course, we have not discussed the rules under which it would be set up, and so a fellow would have to be pretty careful about how valid it was until he knows more about the specification for this adjustment.

Q. You mean, you would like to know how much money you get first, before you can tell whether it is a good method?

A. No, I would like to know what adjustments you were going to make and on what basis.

Q. You have no criticism to offer at this time of such a method—withdraw that—there are sufficient figures in your exhibit, are there not, on which to work out such a sixth method?

A. We have sufficient statistics here to work out almost any number of methods, and the answer to your question is "yes."

[fol. 3140] Q. And without first working it out, you would not want to express an opinion as to whether such a method would be good, bad, or indifferent?

A. I have a natural curiosity, as you do, about just what adjustments you are going to work into this thing.

Q. Well, there would not be much of an adjustment to it. It would be your adjustment, the 80 over 125 adjustment that you use in your fourth and fifth methods. Is there anything wrong with that?

A. Now, you are getting specific. When you do that, do you propose to compare such adjusted Max. Day to the full investment that existed during those periods? In other words, you have two apples, are you going to chop one up before you compare them?

Q. I am asking you whether, in your opinion, it would be proper to do a sixth method using your own figures as the basic data and using your own adjustment?

Now, I am not a rate engineer. I am asking you what you think about the matter. That is one good thing about being a lawyer in these proceedings. We do not have to express our opinions until later.

A. You have used the phrase, "and using your adjustment". I have made dozens of them here, so that isn't a sufficient description of the adjustment that you would use to enable me to give you a good answer.

[fol. 3141] Q. Have you ever computed a method of calculating interest, ad valorem taxes and operating expenses attributable to unused capacity which method was called the "ratio of investment method"?

A. Not that I recall.

Q. Do you remember ever using such a method and getting a figure of \$3,400,000 which would logically be shown in Column G?

A. I have made studies that yielded figures larger than those shown in Column G, and I have seen one, or recall a figure pretty close to \$3,400,000 that I worked out on some preliminary study.

Q. Did you submit that one to Mr. Biddison for his examination?

A. I do not know that Mr. Biddison ever saw that one. I just do not know. I do not believe he did.

Q. You do not believe you did?

A. No.

Q. Did you submit it to Mr. O. J. Neuner?

Mr. Wheat: Don't you mean, G. J. Neuner? Maybe the carbon copy you have before you isn't as good as the one I have.

The Witness: I recall writing Mr. Neuner a memorandum in which I discussed some of my preliminary studies, yes, and from your refreshing my memory, by reference to this memorandum, I feel sure you will find the figure \$3,400,000 on that memorandum referring to some preliminary study I made in connection with this cost of unused capacity.

By Mr. Littman:

Q. Do you have a copy of that letter?

A. I do not have a copy with me.

Q. The letter to which I refer or memorandum which I refer to is dated August 19, 1941. Is that the one you have?

Mr. Wheat: August 19, 1941. I will be very glad if you would like to have this marked as an exhibit—

Mr. Littman: (Interposing) We will handle this matter as we see fit.

By Mr. Littman:

Q. Read the copy that Mr. Wheat handed you, if you will, and state whether or not that is a correct copy of your memorandum? A. That is.

Q. That is a memorandum dated August 19, 1941, addressed by you and written by you to Mr. G. J. Neuner, is that correct? A. That is correct.

Q. Now, will you please read that letter into the record?

A. (Reading)

August 19, 1941

(To) Mr. G. J. Neuner

(From) G. W. Morton

It is quite apparent that there was untised capacity in [fol. 3143] the system prior to the Fall of 1936. This is illustrated by the fact that Gross Earnings for the period October 1, 1936 to September 30, 1937, were \$9,318,459 whereas earnings for prior periods were:

Nine Months 1932 (April 1—December 31) \$1 427 494

1933 2 585 397

1934 3 048 518

1935 3 614 865

1936 3 611 865

1936 (January 1st to October 1st) 3 786 273

Since earnings for 1935 (for example) are 38.8% of \$9 318 459, we might say that only 38.8% of our investment was used and useful during 1935 and, therefore, the balance of the investment amounting to 61.2% (which had been made in advance of the time when it was to be used because it was economical to do so) was not useful in producing revenue for the company. It would seem logical,

therefore, to recognize in some way, that fact that during 1935 taxes, interest and certain operating expenses and other charges were incurred by the company on account of this 'unused capacity which had been installed prior to the time it was needed because it was economical to do so.'

"In the Chicago case these items were put in as 'going value.' Mr. Hamilton's presentation was based upon the ratio of earnings during a fully loaded year to the earnings during the unloaded years and Mr. Emery's determination [fol. 3144] was based upon the ratio of the gas delivered during those years. The amounts were practically the same. Certain adjustments had to be made by Hamilton and Emery and will have to be made in our case to rationalize the presentation.

"It happened that before the Chicago line was loaded (and in our case too) the company made some additional investment in order to fully power the line. It was obviously not logical to make a direct comparison between loaded and unloaded periods without making some adjustment for the additional investment that had been put into the loaded line. The capacity before loading was 175 MM per day. The capacity after loading was 210 MM per day.

"Accordingly, Hamilton and Emery adjusted the earnings for a loaded year before making any comparisons. They took the earnings or MCF during a loaded year and reduced them by  $35/210$ ths in order to get a base for comparison with former unloaded years. Or putting it another way, they multiplied earnings or MCF during a loaded year by  $175/210$  in order to reduce the loaded year to a proper base for comparison with former unloaded years. In explanation of this adjustment, they pointed out that the line carried 90% of its full capacity on an average day during the loaded year and that the use of their factor  $175/210$ , merely embodied the assumption that the line would have carried 90% of its full capacity on an average day during the time the capacity was 175 MM if a full 175 [fol. 3145] MM maximum day load had been realized during the unloaded years. Perhaps, if instead of the use of such a factor as a basis for adjusting a loaded year to arrive at a base, they had assumed a base annual earning or MCF delivery during each of the lean years bearing the same relation to the 175 MM as the annual MCF or



earning during the loaded year bore to the maximum capacity of 210, the comparison might have seemed simpler. Mathematically the answer is the same. With such variations as seemed necessary I have applied the methods described to our situation.

"It happens that we transported considerable quantities of gas for the account of Northern Natural Gas Company during the early years at an average rate, over the entire period, of 1.5¢ per MCF. In the development of unused capacity values I have eliminated the MCF and the Revenues from this source because the property, as built, did not contemplate such a load, as is evidenced by the size of the Hugeton line and during the loaded period (Sept. 1936 - Sept. 1937) no gas was transported for account of Northern Natural Gas Company. To be consistent, I have also eliminated from Unused Capacity that portion of the main line and Liberal compressor station and investment used in carrying this gas. Likewise, I have eliminated Argus and Local Area earnings investment and MCF because our whole story is tied to Main Line Capacities.

"There are several approaches to the problem. For example, we might take the investment during the loaded [fol. 3146] year (\$51,393,417) and apply the ratio 80/125 to it and by comparing this figure with the actual investment during the 'unused' years obtain a measure of investment in unused capacity. This method yields a measure of investment in unused capacity. This method yields a 'going value' of approximately \$3,388,000 before depreciation and contributions. A summary of the roughly approximate amounts obtainable before depreciation and contributions, by the three methods is as follows:

|                           |             |
|---------------------------|-------------|
| Ratio of Revenue Capacity | \$5,700,000 |
| Ratio of Sales Capacity   | 5,400,000   |
| Ratio of Investment       | 3,400,000   |

"I have reduced this to writing partly to clarify my own arguments and partly to supply you with additional information to assist you in coming to a conclusion as to the most logical method for us to use in arriving at 'going value'.

"(Signed) O. W. MORTON"

Q. Now, Mr. Morton, referring to the "ratio of investment" method whereby you arrived at a sum of \$3,400,000, with whom did you discuss that method?

A. I discussed that method with Mr. Neuner. I do not know, I may have even discussed it with Mr. Biddison. I cannot remember who was present at all of the many conversations and meetings that we have had on the subject of preparing for this rate case.

Q. Who turned thumbs down on the ratio of investment [fol. 3147] method?

A. That I do not know.

Q. Somebody did, evidently, because you did not use it.

A. I may have turned it down myself and I rather think I did.

Q. Didn't it give you enough going concern value, Mr. Morton? Is that why you turned it down?

A. What is enough going concern value?

Q. Well, Mr. Biddison thinks he ought to have at least \$1/2 million dollars of it. I suppose that would be his idea of what would be the amount. Is that why you turned it down?

A. No, I suspect that, in working this out, there was some logical reason for turning it down, some reason other than the one you have mentioned.

Q. But you do not recall it now?

A. But I do not recall it now.

Q. You take a very active part, do you not, in designing the rates and tariffs under which Panhandle Eastern Pipe Line Company sells gas, do you not?

A. Yes, I do.

Q. When the company designed the rates and tariffs under which it now sells its gas, were those rates designed to include a return on going concern value?

A. You are referring now to a large group of rates?

Q. Any of them or all of them.

[fol. 3148] A. With any of them, which one?

Q. The ones with which you had something to do and have personal knowledge of.

A. I do not recall that going concern value was discussed one way or the other in the last provision of the rates in which I participated.

Q. Well, you made calculations and computations in arriving at the rates, did you not?

A. Mr. Littman, your question presupposes that we can sit down and just grind out, at the desk, exact costs and then just reduce that to a rate schedule and file it.

Now, as a matter of fact, in the development of rates there are many, many factors that have nothing to do with the cost of delivering the product.

For example, customer acceptance. You do not want a rate that is so cock-eyed that nobody would buy gas under it. I am trying to answer your question. I am trying to point out to you that you cannot reduce rate making to a mathematical formula in which you just sit down and you say, "This item is for this; this item is for this; this item is for going value", and so on.

I have not been able to identify going value, as such, in any of our rates.

Q. Then you have no recollection of ever predicating a rate on behalf of Panhandle Eastern Pipe Line Company [fol. 3149] over your ten years as a rate engineer upon any so-called going concern value, to the best of your knowledge?

A. I recall that in setting up the rate in Illinois, that one of the elements that entered into that—it was way back in 1931—when we had our little run-in with the Illinois Commerce Commission and made a showing before them on a new rate we were trying to put into effect—one of the elements in that rate was going concern.

Q. That was in a proceeding before the Illinois Commerce Commission? A. Yes; that was.

Q. Do you recall of any other instance?

A. No, I do not recall that subject coming up in connection with the rates which we have on file now.

. . . . .

[fol. 3150] By Mr. Littman:

Q. Mr. Morton, will you please turn to your exhibit No. 40, entitled "Panhandle Eastern Pipe Line Company Sys- [fol. 3151] tem/Estimated Main Line Sales—Years 1941-1946, Inclusive."

As the title indicates, Mr. Morton, in this exhibit you have set forth your estimate of main-line sales of the

Panhandle, Eastern Pipe Line system for the six years 1941 to 1946, inclusive, have you not?

A: That is correct.

Q. The sales shown in Column C for 1941 are actual for the first six months and estimated for the last six months of the calendar year, are they not?

A. Yes, they are.

Q. And the total for 1941, as shown in Line 26, is 62,057,500 M. c. f., is that correct?

A. That is correct.

Q. What pressure base did you use for the volumes of gas shown in this exhibit?

A. We customarily carry on our statistical reports M. c. f. sales in terms of the base at which they were actually sold and my estimates are prepared on the same basis.

That is to say, that some of them are one base, and some another. Predominantly, they are the standard with which you and the Commission are most familiar with, 30 inches saturated.

Q. Is that the same as 14.73 atmosphere? A. It is.

Q. Do I understand that it is your conclusion that the gas sales of the system will not remain at the 1941 figure [fol. 3152] of 62,057,500 M. c. f., but that they will increase in the succeeding years 1942 to 1946, inclusive, and in the total amounts shown in Lines 26 and 27 of your Exhibit 40?

A. That is correct.

Q. Now, looking at the top of your Exhibit 40, you show the sales in M. c. f., both annual and maximum day for Detroit. Does that mean the City of Detroit or does that mean the entire Detroit area?

A. That means the area which we commonly refer to as Detroit, being that area served by the Michigan Consolidated Gas Company.

Q. It includes the City of Detroit?

A. It includes the City of Detroit and vicinity.

Q. And environs of the city. Now, in Line 3, Column D, you show the estimated sales to Detroit for the year 1942 to be 27 million M. c. f., an increase of 3 million M. c. f. over 1941, do you not? A. That is correct.

Q. What part of the 27 million M. c. f. represents increased sales to the presently connected burner tip customers?

A. Now, I do not have that broken down between increases to the presently connected customers and the new customers which we expect will come on to our lines.

Q. In making your estimate, you did not make any such determination?

[fol. 3153] A. I made no such distinction between customers, yes, sir. In other words, these are the increases, whether or not it comes from the existing customers or comes from new customers that might be added to their systems during the year.

Q. Do I understand then, that you arrived at your increase of 3 million M. c. f. between 1942 and 1941 on an over-all basis, without making any breakdown or distinction between customers?

A. I am looking now at Work-Sheet No. 1, which gives the total for Detroit, all the details that I have used in the preparation of this estimate.

I see that at the end of 1941, there were 48,000 house heating customers and, at the end of 1942, I estimate there will be 10,000 more, which is 58,000 house heating customers and that the average for the year 1942 will be 53,000 house heating customers; that the total consumption of all house heating customers that will be connected, whether they are new ones or old ones, the total consumption of the combined group will be 86 million therms, or approximately 8,600,000,000 cubic feet.

I show on that work sheet also, that the remainder of the gas to be sold to Detroit for resale for purposes other than house heating will increase from 170 million therms this year to 184 million next year.

Q. What is that, 174 million—

A. (Interposing) 170 million therms to 184 million [fol. 3154] therms, which is approximately 17 billion cubic feet this year to 18,400,000,000 next year, but those figures are not segregated as between old and new customers.

The addition of the two quantities of gas which I have named, namely, 8,600,000,000 and 18,400,000,000 gives us

our figure of 27 billion cubic feet which is shown as next year's estimate.

Q. Can you enlighten us as to how you arrived at these increases? You merely told us that, in your opinion, there would be increases, if I correctly understand your testimony thus far. A. That is true.

Q. Can you enlighten us as to the method you used to arrive at that?

A. Yes, I would be glad to give you the background of that and this is essentially the method you will find running through this entire exhibit.

I keep separately statistics on Detroit, the number of house heating customers by months. I can go back five years, by months, and indicate and show you very quickly how many house heating customers Detroit has so I know from the past performance about how many new house heating customers will be added to the line for each year and for the last three years, it has been about 10,000 house heating customers added each year.

I just assume we will add 10,000 more next year, and that [fol. 3155] the next year will be just like the past two or three years. I keep a record of the house heating consumption, or the consumption per house heating customer, rather in Detroit.

I keep myself informed on such matters. I use that information in predicting how much they are going to use next year. In brief, the past history is my best aid in estimating the future consumption in all these cases.

Trial Examiner: That statement does not, however, apply to the estimates included in Line 8, does it? There you seem to have some arithmetical progression.

The Witness: No, you cannot be too specific in laying down your rules on how you go about this estimating. For example, in Line 8, that reflects a great deal of new business, new customers.

Specifically, those to be added in Pontiac, Flint, and Saginaw and all that whole Michigan peninsula.



The Witness: Under the Consumers' contract so that of course, we would have to handle that a little differently than the way we did Detroit, because we do not have five years' history on those folks.

Trial Examiner: While you are on Line 8, explain the large increase indicated between the years 1945 and 1946.

[fol. 3156] The Witness: The estimator judges that between the year 1945 and 1946 that local gas up there in Michigan is going to play out and we will have to pick up the whole load instead of a large part of the load that we will be carrying up until 1945.

In other words, the sudden increase is due to the fact that they are running out of gas up there.

By Mr. Littman:

Q Well, your working papers do not show the basic data that you used in making your assumption as to increased load which you described, do they, Mr. Morton?

A I think they use the basic assumptions.

Mr. Wheat: You mean they include—

The Witness: (Interposing) I think they include the basic assumptions used because I show there on that working sheet the total sales in 1937, '38, '39 and '40, and I would say that that is basic data for estimating the following years. That is pretty good basic data, it seems to me.

Mr. Lee: May I ask a question?

Mr. Littman: Surely.

Mr. Lee: Are these prophesized increases predicated upon present gate rates under the present contract?

The Witness: Yes, I have, you might say, been forced by circumstances to assume a continuation of the present rate levels in my estimates because I would have no [fol. 3157] grounds whatsoever of supporting any other estimate that I might base it upon.

For example, if I said to you that these estimates are based upon a 10 percent reduction or a 10 percent increase in rates, I would have a harder time making the estimate stand up and I believe it would be less logical than if I

just went ahead on the assumption that the present rates were going to remain in effect.

By Mr. Littman:

Q. Were any of the estimated increases shown by you in Lines 3 and 4 for Detroit furnished to you by Michigan Consolidated Gas Company, either in whole or in part?

A. No, sir, they furnished me no information whatsoever, although I believe they would have if I had requested it.

Q. I thought you said you had, in your possession, the consumption—

A. (Interposing) Yes, I have in my possession all of the statistics regarding our sales to Detroit for a long period of time.

You see, Detroit would not have to furnish me with those figures because that is a part of the Panhandle Eastern record, the record of how much gas they sell to Detroit.

Q. How about the breakdown as between various classes of customers in Detroit?

A. It happens that the monthly bill, which we render [fol. 3158] Detroit shows a tremendous amount of detail along those lines. It shows the number of house heating customers on the face of it.

Q. You furnish that to Michigan Consolidated, do you?

A. The way the proposition works is this: Detroit is our customer. We sell gas to Detroit but Michigan Gas Transmission Corporation acts as our agent, if you please, and renders the bill to Detroit on our behalf.

They send us copies of all those things, of course, and then we make out a bill to Michigan Gas Transmission Corporation billing them for the gas. They collect the money.

Q. Where does Michigan Consolidated Gas Company come into this picture? Don't they furnish you some information? I am talking about the Detroit distributing company. Don't they furnish you with some information with respect to the number of customers and the consumption by each customer, and other information?

A. We have no formal arrangements with them for obtaining that information. Perhaps this would answer your question—

Q. (Interposing) The thing I would like to know is—

A. (Interposing) Where I get my information?

Q. Where you get your information.

A. Yes. I am trying to anticipate you so we can rush it along. I go up annually and, in connection with the con-[fol. 3159] tracts between the two companies, audit the records of the two companies.

Q. Of what two companies?

A. Panhandle Eastern's relations to the Detroit company. The Detroit company's record of its sales to its customers is one of the figures which I personally look at every spring as it is one of the requirements of the existing contract.

In other words, we have access to their records and they are always glad to give us information and the information we have actually reflects their sales in Detroit.

Q. Then you have a breakdown by customers for your use in preparing estimates and so forth, is that correct?

A. We have a breakdown by customers, not possibly as much in detail as you might think, because we do not go into their records and find out how much of their gas is sold to commercials, and how much is sold to industrials, but we do find out how much is sold to house heating customers.

[fol. 3162] By Mr. Littman:

Q. How did you arrive at the 142,000 M. e. f. figure for the maximum day in Detroit shown in Line 4, Column D?

A. That was the figure that I computed, consisting of two parts; one, the maximum demand attributable to the house heating business plus, two, the maximum demand attributable to the remainder of the business.

The house heating demand was 84 million and base load demand was 58 million.

Q. Are you talking about M. e. f. now, or cubic feet?

A. Excuse me, 84 million cubic feet, 58 million cubic feet, making a total of 142 million cubic feet.

Q. Did you utilize a load factor in arriving at the figures which you just mentioned?

A. Yes, that is shown on my work sheet also. I used 80 percent load factor in arriving at the maximum day applicable to the base load.

Q. And what load factor did you use for the house heating load?

A. I got that by a very rapid calculation involving three factors, namely, my estimate of the number of degree days on the maximum day, the number of cubic feet consumption per customer on that maximum day and the number of house heating customers.

I multiplied together the number of customers times the [fol. 3163] consumption per degree day times the degree days, and arrived at a figure which, roughly, in my opinion, represents the maximum demand we might expect during the coming winter from the house heating load at Detroit.

Q. Can you give us a typical example of the method applied by you?

A. A typical example of this method might go something like this: Suppose we knew that we were going to have—

Q. (Interposing) Pardon me, perhaps it might be better for you to take the actual figure that you gave, maximum demand for house heating business of 84,000 M. c. f. and give us the basic figures.

A. Yes. The basic figures that went into that appear roughly here on my work sheet to have been 70, which represents the degree days times 25; which represents the consumption per customer per degree day, times the number of house heating customers, which we expect to be on the lines as of the last of December, namely, 48,000, and those three things multiplied together give you your 84 million cubic feet.

Q. You mentioned a figure of 70. 70 what? What is that?

A. That is 70-degree days.

Q. What do you mean by a "degree day"?

A. That is the number of degrees below a base of 65 on the given day in question. Meaning, more specifically, that [fol. 3164] on a day when your temperature is zero, you have 65 degrees in that day. On a day when your mean temperature is 10 above zero, you have 55 degree days be-

cause that temperature is 55 degrees for that day below your base of 65.

Q. Now, you mentioned a figure of 25. Will you tell us what that represents?

A. Yes, that is just a rough rule-of-thumb that I find works out mighty well in estimating the consumption to be expected per house heating customer per degree day at Detroit.

In other words, that is how much gas a house heating customer will use for every degree of temperature below 65. It is a yardstick.

Q. What is that 25, cubic feet, or what?

A. Yes, that is the figure I use in this instance.

Q. I believe you gave us the increases for the maximum day in 1942 over that experienced in 1941, but I do not believe you explained—withdraw that—was that same method applied by you in the case of Detroit for the years 1943, 1944, 1945 and 1946 as shown in Lines 3 and 4 of your Exhibit 40?

A. Yes. I am looking at my work sheet and I observe from inspection of this work sheet that I used the same method that I have described for every year at Detroit.

Q. That is, you used the same load factor?

A. Yes, I used the same load factor.

Q. And did you use the same unit consumption for [fol. 3165] house heating customers? A. Yes, I did.

Q. Now, looking at Line 6, called Michigan Gas Industrial. I note you have no sales whatever for the year 1941 but you have annual sales of 1,040,000 M. c. f. in 1942. Will you explain that figure?

A. That title there, Lines 5, 6 and 7, other industrial—Michigan, or rather, "Other—Michigan" and the subheading is "Industrial" represents the industrial sales I expect to be made in Michigan during 1942 outside of those made to the Detroit company.

Mr. Lee: That is all of the Consumers' contract?

The Witness: Principally, that is Consumers' figures. There is also included there a little gas for Monroe and Adrian, Michigan, as I recall it.

Mr. Lee: But that has nothing to do with the Detroit area?

The Witness: It has nothing to do with the Detroit area.

By Mr. Littman:

Q. Is that a new market that you expect to secure in 1942?

A. Yes, that is a new market.

Q. Is it expected that the sales, industrial sales shown in Lines 6 and 7 for the years 1942 to 1946, inclusive, are to be made to a distributing company or distributing company [fol. 3166] panies? A. It is.

Q. What is the name of the distributing company?

A. Principally Consumers Power Company.

Q. Can you name any others?

A. As the years go on, others are added to that list. Without taking too much time or going too far into the work sheets, unless you request it, I will say to you that I believe that figure is principally Consumers Power, almost entirely, but there is, in addition to that, some business which we expect to pick up of an industrial nature at Monroe, Adrian, possibly some at Battle Creek is in there, and I believe that those are the principal ones that I can name.

Q. How about Pontiac and Flint?

A. That is in Consumers Power. Pontiac and Flint are Consumers Power.

Mr. Lee: May I ask a question?

Mr. Littman: Surely.

Mr. Lee: These distribution customers that you refer to, not those that you expect you will get some time in the future but that you already have gotten that will be operated in a short while, you have contracts with them, have you not?

The Witness: We have contracts with Consumers Power, Monroe, yes.

Mr. Lee: Adrian?

The Witness: I am not sure about Adrian. We have [fol. 3167] been negotiating with Adrian.

Mr. Lee: And likewise Battle Creek, you have been negotiating with?



The Witness: And we have a contract with Battle Creek.

Mr. Lee: So this anticipated increase in business outside of the Detroit area is pretty well covered by contracts already entered into?

The Witness: That is true. We seriously expect to serve that area.

By Mr. Littman:

Q. Will you give us a breakdown of this 1,040,000 M. c. f. figure in 1942 as between distributing companies?

A. I do not believe I can find that at the moment in my working papers, but I wish to repeat again that it is almost entirely Flint and Pontiac and other Consumers Power accounts.

Trial Examiner: May I call your attention, Mr. Morton, to Exhibit 59, which is a statement prepared by Mr. Watkins of gas revenues by states, covering a ten-year period to December 31, 1941, and in Column R, there appears to be a total of 32,397,585 representing sales for six months of the year 1941.

May I ask whether the same figures that are shown in that table are embraced in your figures in Column C for 1941?

The Witness: Yes, sir, Column C includes—

Trial Examiner: (Interposing) Column C in Exhibit 40—

[fel-3168] The Witness: (Interposing) In Exhibit 40.

Trial Examiner: (Continuing) Is intended to reflect the same sales reflected by Column R in Exhibit 59?

Mr. Culton: That is Line 15, Mr. Examiner, Column R, total of 32 billion.

The Witness: Yes, sir.

Trial Examiner: That is supposed to represent six months of 1941?

The Witness: That is a thing that confused me.

Trial Examiner: Your Column C represents the entire year based on the first six months?

The Witness: It does.

Trial Examiner: But it does cover the same area?

The Witness: Yes, sir.

Trial Examiner: In other words, total sales?

The Witness: Yes, sir, total main line sales.

Trial Examiner: Well then, is your Exhibit 40 complete and does it represent all sales of the company? I call your attention, as a basis for that question, to the fact that on your Exhibit 40 appears a tabulation, commencing at the top, east of Dana and below, west of Dana.

Do the sales west of Dana include all States?

The Witness: The sales shown on this study do include all States and all sales which we are making and expect to make on the main line system of Panhandle Eastern Pipe Line Company.

[fol. 3169] Mr. Culton: This does not include Argus or the Local Area?

The Witness: That is the point I believe the Examiner is getting at. This study does not include sales to the Argus Pipe Line Company nor in the Local Area.

Trial Examiner: What the Examiner is approaching now is this question: Do your estimates of increased business during the next five-year period include estimates of increased business in the States west of Dana?

The Witness: Yes, sir, they do.

Trial Examiner: And the estimates for the entire area now served by your company, as shown on your proposed Exhibit 40, will not exceed the total contemplated pipe line capacity of 125 million M.c.f.?

The Witness: Our pipe line capacity at present is 250 million.

Trial Examiner: That is 250 million now?

The Witness: Yes, sir.

Mr. Wheat: And the total maximum day, your Honor, over-all for 1941 is 240,394,000 M.c.f. in Line 27, Column C, of Exhibit 40.

Trial Examiner: I wanted to understand this. You are relating estimates to your total capacity and, in your Exhibit 38, you had an original capacity of 80 million shown.

Mr. Wheat: That is correct.

[fol. 3170] Trial Examiner: In the early years, which was then increased to 125 million?

Mr. Wheat: Correct.

Trial Examiner: And at what point does it step up to 250 million?

Mr. Wheat: That was included, of course, in the testimony of Mr. Creveling and also Mr. Burnham, but there are a number of steps there and I am sure the witness is giving you, in general, the steps.

Trial Examiner: That is what I wanted to bring out and relate to these exhibits. At what point do you step up from 125 million capacity, which was discussed this morning, to a greater capacity, and what is that capacity?

Mr. Culton: What the Examiner desires to know is, what is the capacity at this time, the Max. Day capacity at this time?

Trial Examiner: With relation to the years covered by the exhibits.

Mr. Wheat: Possibly I could get that by asking the witness a question.

In Exhibit 38, Mr. Morton, you showed, approximately, for the year 1937, did you not, a capacity in the pipe line of 125 million cubic feet?

The Witness: Yes, sir.

Mr. Wheat: Now, since the year 1937, there have been increases in the capacity in the main pipe line, have there not?

[fol. 3171] The Witness: There have been.

Mr. Wheat: So that, at the present time, as testified by several [witness] here, the main line capacity is now 250 million, is that correct?

The Witness: That is correct.

Mr. Wheat: Now, can you, from any notes that you have here, state the times when the capacity was increased by certain amounts which add up to the present capacity of 250 million?

The Witness: I have before me a memorandum which I sent to Mr. Paxton and which formed the basis of a report to the S. E. C., so I know that it is official with respect to those matters you have inquired about.

The capacity in December of the various years on our pipe line was as follows:

December, 1935— 80 million

December, 1936—125 million

December, 1937—180 million

December, 1938—200 million

December, 1939—200 million

December, 1940—250 million

December, 1941—250 million.

Trial Examiner: Now, does that represent the maximum capacity which had been produced by all betterments now in process or contemplated immediately?

The Witness: No, sir. That represents the capacity as [fol. 3172] it stands today before any of the improvements which we are working on have been made.

Trial Examiner: And can you state, in that connection, whether the contemplated improvements, including your extended line in Michigan and your completion of looping program, are you able to state what effect that will have on the capacity?

The Witness: That, your Honor, has been testified to, I am quite certain, by our chief engineer, Mr. Burnham, and I believe that this, roughly, outlines what he has told me on the subject, that our present capacity is 250 million;

that we have under construction and planned now and are going to go forward with as rapidly as possible, as rapidly as we can get the pipe, with construction that will raise the capacity of this pipe line to something very close to the figure I have shown here for 1943, namely, 243 million.

Mr. Wheat: You mean 343 million.

The Witness: 343 million.

Trial Examiner: So that your estimates beyond 1943 will not be beyond the capacity of the present contemplated improvements?

Mr. Culton: The 1942 estimates, Mr. Examiner, cannot be served by the present line. I remind the Examiner that Mr. Creveling testified that we will have to complete some looping which the company has in mind for next summer in order to be able to handle the load for the winter of 1942 and 1943. I think he also testified that we are going to be running pretty close to the shore during the current winter of 1941 and 1942 and that to reach what is estimated for the winter of 1942 and 1943, some additional looping, for which contracts have been made and which they expect to complete next summer, will be in progress and that additional capital will be required later to complete the program so as to account for an adequate Max. Day to meet these peaks in the various years that are shown on this exhibit.

[fol. 3174] By Mr. Littman:

Q. Now, Mr. Morton, we were discussing the figure in Column D, Lines 5, 6 and 7 of 1,040,000 M. c. f. annual sales to industrials in Michigan other than industrials at Detroit.

Does that amount represent gas sales which are already contracted for?

A. They are contracted for, to this extent, that we have contracts with Pontiac, Flint, that is to say, the Consumers Power, and that is where most of that gas is going.

Q. Can you tell us how much?

A. I find here on my work sheet 4-A, that I have estimated that of that total industrial sale expected in 1942,



680 million out of the 1,040 million would be expected to be sold at Pontiac, Flint and Owosso.

Q. Let me get those figures on a comparable basis. Your exhibit speaks in terms of M. c. f. Would you mind talking also in terms of M. c. f.?

A. All right. I should say that out of a total of 1,040,000 M. c. f., it appears from my working sheet here that I [fol. 3175] have estimated that Pontiac and Flint and Owosso will take 680 thousand M. c. f.; Jackson, Kalamazoo and Marshall, 160 thousand M. c. f.; Battle Creek, 200,000 M. c. f.

Q. Now, what is the basis of those estimates? You have not sold any gas yet, have you?

A. That is true.

Q. How did you arrive at those figures?

A. Those figures have their origin back in reports and studies which were made sometime ago regarding the Consumers Power System and the Michigan load up there in Michigan.

[fol. 3176] Q. Studies made by whom?

A. My first reference, and you will find it here in my working sheets, is from the Consumers Power people themselves. They have sent us a very fine summary consisting of many pages, of the industrial plants which they regard as likely prospects and which they believe that they will sell gas to when we come to Michigan; and that is the basis for that estimate.

Trial Examiner: Are those communities served now by gas?

The Witness: Most of them are served by manufactured gas. As a matter of fact, I do not believe I have named any that were not already served with manufactured gas, and possibly some of them with natural gas.

By Mr. Littman:

Q. You are not now referring to the industrials, are you? We are presently discussing, namely,—

A. (Interposing) He said communities.

Q. What about the industrials?

A. Now, those industrials, I am unable to tell you right offhand whether or not they are receiving service now. I could probably find it here among this wealth of information which I boiled down into this estimate.



Q. Well, who worked up that estimate to which you just alluded, for the sale of industrials in 1942?

A. Well, I worked up the final figure, but, of course, [fol. 3177] as I say, it is based upon reports which we received from Consumers Power folks.

Q. That accounts for 680,000 M. c. f. of it?

A. Yes. Now, the other—are you inquiring about the other?

Q. I am sorry to have misled you. That accounts for 840,000 M. c. f. of the total of 1,040,000?

A. Yes. Now, the next figure, I said that went to make up the total of 1,040,000 M. c. f., is expected to come from Battle Creek, and I made that estimate personally without any assistance from anyone other than my general knowledge of what you might expect from Battle Creek.

Q. How did you go about arriving at it?

A. I think it is rather difficult, Mr. Littman, to describe to you what I am forced to call "subconscious processes." I probably thought something like this or worked something like this: I took Brown's Directory which is a directory of all gas companies showing the consumption and sales that they had experienced in the past up there at Battle Creek.

Q. Just a minute. Sales to whom?

A. That the Battle Creek Gas Company has made to its customers.

Q. Do you mind if I interrupt at this point to clear up some of these matters as we go along?

[fol. 3178] Now, the sales in Battle Creek are artificial or natural gas sales?

A. They are artificial, as I recall it, at the present time.

Q. Does the local distributing company in Battle Creek make any sales to industrials?

A. They have quite a bit of industrial sales at Battle Creek, yes. It is quite an industrial center. You see indications of it on breakfast food boxes; their signs.

Q. Well, is the figure of 200,000 M. c. f. to be sold to industrials at Battle Creek based upon the last year's sales to industrials at Battle Creek?

A. No, it is not directly related to that but only insofar as I have looked at their sales on a manufactured gas

basis, and I have looked at the town, in my mind's eye, and I have said, "If these people with this kind of town can sell this much manufactured gas at the high prices that manufactured gas is sold, that they will sell 200 million on a natural gas basis at the prices at which natural gas is going to be made available to them." That is about the entire process.

. . . . .

[fol. 3191] O. W. MORTON a witness, having been previously sworn, resumed the stand and testified further as follows:

Cross Examination (Continued)

By Mr. Littman:

. . . . .

[fol. 3193] Q. Now, at yesterday's session, we were discussing the estimates shown from Lines 5 to 7, inclusive, for Michigan called "Other Industrial". Will you please give your explanation as to the method followed by you in arriving at the estimates shown for the years 1942 to 1946, inclusive?

A. The figures on Line 6 represent my estimate of the industrial sales which we expect to be made in Michigan through the coming years outside of those that might be included in Detroit.

The basic data for arriving at most of the amounts shown on this line comes from industrial surveys which have been made in Consumers Power territory and forwarded to us.

The estimate, as I said, is principally gas expected to be sold in Consumers Power territory, that is, Pontiac, Flint, Owosso, Jackson, Kalamazoo and Marshall, but there is included also, in this line, 200,000 M.c.f. to 500,000 M.c.f. down through the years at Battle Creek, Michigan.

The amounts, in comparison to some of the other totals, are not large, and unless you indicate otherwise, I will [fol. 3194] make a more extended explanation on the larger items, and cut down my explanations on the smaller items.

I believe that is the only information I can volunteer, at the moment, on that particular setup of figures shown on Line 6.

Q. Do you have working papers in support of this estimate of other industrials in Michigan which you just—

A. (Interposing) Yes, I do. You will find in my working papers a summary of such data on work sheet No. 4-A. There are other details behind that summary, and these you will find in typewritten sheets which constitute the industrial survey that was made in that territory and forwarded to us by the Consumers Power Company.

I understand that you have made copies of the typewritten sheets to which I last referred.

Q. Will you please include among the typewritten work papers to be submitted to us, work sheet No. 4-A that you just alluded to, and any other working papers that you prepared in connection with this estimate?

A. I will be glad to do so.

Q. What was the sheet number on Detroit?

A. The working sheet number on Detroit was, No. 1.

Q. What is contained on work sheets Nos. 2, 3 and 4?

A. Work sheet No. 2 is a detail of the estimated sales at Ann Arbor, Monroe and Adrian, Michigan, and at the [fol. 3195] bottom of work sheet No. 2 is shown a total of these three towns.

Work sheet No. 3 is an estimate of total sales to be experienced in southern Michigan, assuming local gas is depleted at the end of five years from December 31, 1940; and it is a memorandum which is, in fact, a summary of the sales that are expected to be made in Consumers Power territory in Michigan.

Q. Mr. Morton, have you finished your answer?

A. Yes.

Q. What is contained in work sheet No. 4?

A. Work sheet No. 4 is a summary which shows the totals of Sheets 2 and 3.

Q. Mr. Morton, I note that in Column G for 1945 the annual sales for Other Industrials in Michigan is 1,718,000 M.c.f. and, that for 1946 there is a rather sudden increase, or a great increase, to 3,323,000 M.c.f.

Also, that in 1945, the maximum day figure is 5,270 M.c.f., whereas it increases greatly to 10,040 M.c.f. in 1946. Will you please explain the reasons for this increase in your estimate?

A. That is brought about by a circumstance which we discussed yesterday. The depletion, or I should say, the estimated depletion, in the local supply of gas in Michigan, it is anticipated that we will be serving a portion of the Michigan load up until that time and that as soon as their gas runs out, which has been predicted, I understand, [fol. 3196] officially by the Michigan Public Service Commission in their 1940 report, by the time that gas runs out, or rather, I should say, when the gas runs out, will pick up the entire load.

Q. What assurance do you have that you will secure such a load? Do you have a contract for it?

A. Yes, we have a contract with Consumers Power Company for that business, and we also have a contract, as I testified yesterday, with Battle Creek and these other customers that are indicated here as being included in this estimate, have expressed a great deal of interest in our natural gas, and I have no doubt that we will execute contracts with all of them shortly.

Q. Is the contract to which you have just referred with Consumers Power on file with the Federal Power Commission?

A. Yes, it is.

Q. Do you know of the number of that contract?

[fol. 3197] By Mr. Littman:

Q. Am I correct in understanding that a part of the 3,323,000 M.c.f. figure in Column H, Lines 6 and 7, is not contracted for?

A. That is correct.

Q. Do you have a breakdown in your working papers to show how much?

A. Specifically, we have no contract with Lansing and Grand Rapids and possibly one or two of the others that appear in that group.

Q. Now, will you please give us a segregation of the figures in Lines 6 and 7, as between distributors and direct customers?

A. All of the gas which we have estimated in those lines has been estimated on the basis of our sales to distributors.

Q. None of it is directly to industrial consumers?

A. That is correct.

Q. Now, will you give us the breakdown of those same figures, showing how much of this gas is presently contracted for; secondly, that amount which is contracted for but has not yet been served; and, third, that which has not yet been contracted for, and the reason for your inclusion of the latter class in this estimate?

A. None of this gas is being served at the present time.

[fol. 3198] Q. I might state, Mr. Morton, if you can save time by referring to any working papers that show the detail that I am requesting, that will be sufficient, if you will identify the working papers.

A. My working papers do not show on their face how much of this gas has been contracted for, how much has been contracted for and not served, and how much has not been contracted for at all, but maybe this would give you the information you want:

From examining the working sheets, it is quite apparent to me that about 90 percent of the gas that we have been discussing on Lines 6 and 7 goes to the Consumers Power territory which has been contracted for.

Q. Does that 90 percent apply to both Lines 6 and 7 for each of the years 1942 to 1946, inclusive?

A. It does.

Q. Does the 3,323,000 M.c.f. figure in Column H include sales to any communities other than those which you named as the subject of the Consumers Power Company contract?

A. Yes, they include sales to Battle Creek, Lansing, Grand Rapids, and possibly some others, the names of which I cannot recall at the moment.

Q. Would Mount Pleasant, Michigan, be one of those?

A. I have that one listed in my work sheets, and the answer is, "yes."

[fol. 3199] Q. Will you please read the paragraph in your working papers that includes the City of Mount Pleasant?



A. It is numbered 4; Lansing, Grand Rapids, Saginaw, Bay City, Alma, Clare, Big Rapids, Muskegon, Mount Pleasant. That figure appears once only in the whole record, and that is for the year 1946.

Of course, the estimate is a very rough estimate for the year 1946.

Q. What period is covered by your working papers?

A. It happens that my working papers are prepared on the basis of a ten-year estimate extending to 1951.

Q. Now, Mr. Morton, suppose we go to the next classification shown in Lines 8 and 9 for Michigan domestic, commercial, and other.

Will you please explain the method used by you in arriving at the estimates shown in those lines through 1946?

A. That, I might say, is a companion estimate with the two lines above, Lines 6 and 7. The figures shown on Lines 8 and 9 are the domestic and commercial sales in the same territory which we have been discussing.

Those figures are principally sales which we expect to make to Consumers Power. They include Battle Creek. They include, as the title would indicate, since they are under "Michigan, Other," all other domestic and commercial sales which we expect to make in the State of Michigan outside of Detroit.

[fol. 3200] They include Ann Arbor, Adrian, Monroe; beside the Consumers Power territory that we have named. They include Lansing, Grand Rapids, Saginaw, Bay City and Alma, and so on, but only during the fifth year on the latter group.

The basis for this exhibit, or the foundation or working papers back of it go back to summaries, estimates, surveys, that were furnished us in great detail by the Consumers Power Company for their territory, and the estimates for Battle Creek, Adrian, Monroe and Ann Arbor were prepared by me from data which I have on hand.

The figures are a rather large part of the total, running an average of 5 billion cubic feet or 5 million M.c.f. per year.

You will note, just as the industrial sales jumped from 1945 to 1946, the domestic-commercial sales also take that



same jump, and this is due to the same reason that the industrial sales jumped, as I have explained before; namely, the depletion of local gas in Michigan.

Mr. Wheat: What are the numbers of those work papers?

The Witness: The numbers of the work sheets covering this estimate are 2, 3, 4 and 4-A.

By Mr. Littman:

[fol. 3201] Q. Referring to the figure 10,296,200 M.c.f. shown in Line 8, Column H, and the figure immediately below it, 42,760 M.c.f. for the maximum day, will you state whether or not all of that is embraced by the present contract with Consumers Power?

A. No, as I explained before, these figures are companion figures to the industrial study just above. They apply to the same territory, principally, however, to the Consumers Power territory but include, as I have said, some other towns in Michigan.

Q. Will you name the other towns in Michigan and the distributing companies?

A. I am unable to do that because my memory has about reached the breaking point on this discussion of these work sheets.

The towns, as I have enumerated several times before this morning, are: Adrian, Monroe, Battle Creek, Grand Rapids, Lansing, outside of Consumers Power, that is what you asked for.

There may be a few more which I cannot recall, but they are not very important.

Q. Can you state what part of the M.c.f. figures that I read are contemplated to be sold to those communities which you just named and which are outside the scope [fol. 3202] of the Consumers Power contract? You may do that approximately.

A. Yes, I understand. I was going to say that that particular breakdown does not exist here on these work sheets.

It is something that has to be worked out, but from just an inspection of them here, it is easily seen that the Consumers Power will take about 90 percent of this total.

Q. Can you give us a breakdown of the 90 percent figure as between territory served by Consumers Power under contract and that which will not be served under that contract?

A. A breakdown as between what classifications?

Q. As between the territory now contracted for and territory not now contracted for.

A. Well, I am under the impression that all of the Consumers Power territory has been contracted for, as I recall it, and this is from memory.

The contracts that exist between ourselves and Consumers Power call for service to all of these towns for all of this gas. In other words, it is already contracted for. I would say 90 percent of all of the gas we are talking about has been contracted for.

[fol. 3203] Q. Mr. Morton, am I correct in stating that the territory in which Consumers Power Company now sells gas embraces the territory in and about Lansing, Michigan, Ithaca, Michigan, and Bay City and Saginaw?

A. I knew they operate in Bay City and Saginaw. I do not know about Ithaca, and Lansing is a Consumers Power town, I believe.

Q. Now, your 1496 estimate of 10 million M.c.f. for domestic, commercial and other in Michigan includes, does it not, sales to the territory of Lansing, Ithaca, Bay City and Saginaw?

A. It does.

Q. Does the 1945 figure, in the amount of 5,451,000 M.c.f. include such sales?

A. It does not.

[fol. 3204] Q. Can it be determined from your working papers how much of your 10,296,200 M.c.f. estimate applies to the Lansing, Ithaca, Bay City and Saginaw territory?

A. It appears that about 6 million M.c.f. out of the 10 million M.c.f. has been estimated as applying to Lansing, Grand Rapids, Saginaw, Bay City, Alma, Clare, Big Rapids, Muskegon and Mount Pleasant.

Q. Now, turning to your estimate for Indiana and Ohio, you show in Line 11 and in Line 12, your annual sales and maximum day sales to industrials in those States for the years 1941 to 1946, inclusive.

Will you please explain the method whereby you arrived at those estimates?

A. That sale applies almost entirely to industries in and around Muncie, Indiana. We have several years' past records on these sales and, from a study of these records and from my personal knowledge and experience, I have estimated that the sales this year under this classification will be about 10 million M.e.f. based upon this year's sales and the prospects, as I see them, for the ensuing years.

I have estimated for the 1942—11 billion plus; 1943—12 billion plus; 1944—almost 13 billion; 1945—13 billion plus; 1946—13 billion, 700 million, a very gradual increase of sales to industries in the State of Indiana.

Q. Now, what were the actual sales to these industries [fol. 3205] in 1940?

A. The actual sales for 1940, according to the record which I have here in front of me was 7,682,862 M.e.f.

. . . . .

Q. How much of this 10,250,000 M.e.f. in 1941 is actual, and how much of it is estimated?

A. Well, at the time I made this estimate,—I see it is dated August 6 here in the corner—I probably had only six or seven months' experience so that the 1941 figure shown here is probably six months actual and six months estimated.

[fol. 3206] Q. Have you verified your estimate recently?

A. No, I have not, except in a most general way. I watch the daily deliveries through the pipe line and I also watch the deliveries at King Station which, by the way, is the station where we deliver the gas for the Muncie group and those sales are holding up nicely, and I won't be surprised but what they exceed the figure I have shown here for 1941.

. . . . .